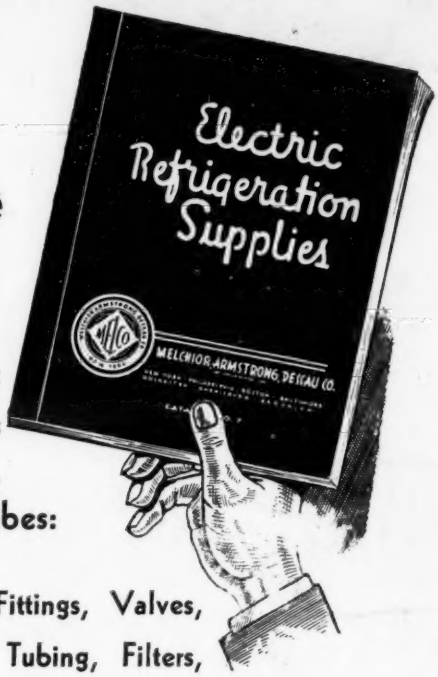
This Valuable Book FREE



Our new 1937 Electric Refrigeration Supplies Catalog is now ready. It illustrates and describes:

Flared and Sweat Fittings, Valves, Manifolds, Copper Tubing, Filters, Tools, Refrigerants, Oil, Expansion Valves, Controls, Compressor Parts, Belts, Condensers, Compressors, Condensing Units, Door Gaskets, Ice Cube Trays, Household Evaporators, Coils, Unit Coolers, Air Conditioning Units.

Immediate shipment from New York and the following points:

MELCHIOR, ARMSTRONG, DESSAU CO.

300 Fourth Ave., New York, N. Y.

Brooklyn, N. Y.
1104 Bedford Ave.

Boston, Mass.
614 Memorial Drive

Baltimore, Md.
601 W. North Ave

Newark, N. J.
859 Bergen St.

Hartford, Conn.
45 Union St.

Harrisburg, Pa.
1221 Derry St.

Rochester, N. Y.
85 Franklin St.

Philadelphia, Pa.
1516 Callowhill St.

Washington, D. C.
17th & U Sts.

PERIODICAL
First Copy
PUBLIC LIBRARY
JUL 2 - 1937
DETROIT

THE NEWSPAPER OF THE INDUSTRY

AIR CONDITIONING AND

WRITTEN TO BE READ ON ARRIVAL

REFRIGERATION NEWS

Trade Mark Registered U. S. Patent Office. Established 1926 as Electric Refrigeration News
Member Audit Bureau of Circulations. Member Associated Business Papers.

VOL. 21, NO. 9, SERIAL NO. 432
ISSUED EVERY WEDNESDAY

Entered as second-class matter Aug. 1, 1927

DETROIT, MICHIGAN, JUNE 30, 1937

Copyright, 1937, by Business News Pub. Co.

FOUR DOLLARS PER YEAR
TWENTY CENTS PER COPY

Colleges Plan 2 Conferences on Refrigeration

Texas & Tennessee Groups Also to Discuss Problems In Air Conditioning

AUSTIN, Tex.—Refrigeration and air-conditioning conferences under the auspices of the committee on refrigeration as applied to food preservation, newly established by the American Society of Refrigerating Engineers, will be held during July at the University of Texas here, and the University of Tennessee, Knoxville.

Support of the health departments, dairy divisions, Smith Hughes teachers, and planning commissions of both states is expected as well as that of the industry's manufacturers, distributors, and dealers.

First conferences will convene in Austin. Refrigeration will be the subject from July 6 to 10, and air conditioning will be discussed during the week beginning July 12.

At Knoxville, refrigeration and air-conditioning conferences will run concurrently from July 19 to 30.

Refrigeration sessions will be under the direction of Dean Willis R. Woolrich of the University of Texas, chairman of the A.S.R.E. food-preservation committee, and Mack Tucker of the Tennessee Valley Authority.

A complete symposium of new refrigeration activities will be on the program, special attention being given to preservation by quick freezing and marketing of frozen foods.

Air-conditioning sessions will be directed by Profs. H. E. Degler and F. L. Wilkinson, of the Universities of Texas and Tennessee, respectively. Methods for increasing the usefulness of air conditioning to the South are to be considered.

Graham Named Chief Engineer at Temprite

DETROIT—Appointment of Frank O. Graham as chief engineer of Temprite Products Corp. has been announced by John Wyllie, Jr., vice president and general manager.

Mr. Graham spent seven years with Westinghouse, General Motors, and Square D after graduating from college, and then entered the electric refrigeration field when he joined Nizer Corp. After five years as Nizer's district service manager in St. Louis, Mr. Graham was transferred to the commercial engineering division of Kelvinator.

He resigned this post after six years to accept a position as chief engineer of the refrigeration division of Anheuser-Busch, St. Louis brewing concern, remaining with Anheuser-Busch until recently.

G. T. Long Heads Carrier's New Residential Dept.

NEWARK—George T. Long, who has spent three years with Carrier Corp. in residential air-conditioning field work, has been appointed head of Carrier's newly created residential air-conditioning department, according to L. R. Boulware, vice president and general manager.

In addition to his work with Carrier, Mr. Long has had considerable home heating experience with other manufacturers.

Other additions to the Carrier organization were announced by Mr. Boulware as follows: Stanley Ellison and Donald Flynn, commercial refrigeration; E. L. Hinchliff, public utilities; Mortimer Lansing and C. R. Davison, portable summer air conditioners; E. D. Greiner and George Scheele, dealer development.

Fear of Saturation On Refrigerators Derided by Allen

HOT SPRINGS, Va.—Deriding the "saturation bugaboo," particularly as applied to electric refrigeration, A. E. Allen, vice president of Westinghouse Electric & Mfg. Co., told members of the Southeastern Electrical Exchange at their annual meeting here recently that "the next 10 years will be known as 'the golden era of merchandising,' if we take advantage of the opportunities that are literally beating at our business doors."

Three fundamental factors are to be considered, Mr. Allen said, in estimating the merchandising activity for the years to come. These are:

1. Virgin, or percentage of market not yet saturated.
2. Replacement market, including both factors of obsolescence and design or style motive.
3. New products, now either in the pioneering period, or yet to be discovered.

"Many otherwise rational executives view with alarm the saturation statistics placed in front of them periodically whenever sales quotas are established, or when they estimate production and distribution schedules," Mr. Allen said.

"The only value in watching and studying the market saturation is in determining or ascertaining buying motives. Saturation figures never have, or never will be a true barometer of merchandising weather.

"Consider the electric refrigeration business. It represents a product having universal acceptance, a fairly high unit retail price, and certainly a rapidly increasing 'saturation.' There are many executives who have predicted for the past two or three years a sloughing off or decline in refrigeration sales, due to the alarming 'saturation' which we have reached.

"In face of the fact that the industry sold more than a million and a half units in 1935 (and the cries of 'saturation' started immediately) and more than two million units in 1936, with a retail value of more than $340,000,000, we have a market ahead of us that should return handsome profits for many years to come.

"Let me point out briefly how we have met the challenge. Back in 1925 the average retail price of a refrigerator was $435. In 1927 that price had been reduced to approximately $350 and this refrigerator used 822 k.w.h. annually.

"The average retail price of a refrigerator in 1936 was $166; and we have increased the efficiency to the point where the average consumption of k.w.h. per unit for 1935 (the last available figures) was 480, with the annual average of k.w.h. consumption still falling.

"In other words, we have reduced the unit cost almost two-thirds and the cost of operation approximately one-half in the past 10 years—and we're still making progress.

"Many of my utility friends have said to me, 'you manufacturers must get busy and build us a cheap refrigerator—say around $75; otherwise, we will never be able to sell the very low income bracket who want but cannot afford the present refrigerators.'

"A $200 or $300 automobile is just about as reasonable a request as a $75 refrigerator. Have we got such a car? And yet I don't think anyone can claim that the low income brackets in these United States are are not possessed of automobiles. In fact, there are over 22,500,000 passenger cars registered, and the public bought 3,458,000 of them in 1936.

"And there, in my opinion, is one of the answers to providing the low income bracket population in this country with electric refrigerators. We have found out, and so has the automobile industry, that they want

(*Concluded on Page 3, Column 1*)

Fair Trade Code Helps, Columbus Dealers Claim

Pact Is Effective Through Distributor Cooperation; 'Shoppers' Are Used

COLUMBUS, Ohio.—Regulation of retail trade practices through the Electric Dealers Association, an organization composed of furniture, hardware, chain, and electric stores, has played a major part in bettering refrigerator selling conditions for both dealers and salesmen, reports D. E. Dougherty, secretary of the association.

Formed last year under the Ohio fair trade act, the Electric Dealers Association has received the full cooperation of distributors, who not only file their minimum prices with the organization but co-sign the distributor-dealer contract drawn up by the group, Mr. Dougherty states.

Distributors also insist that their dealers abide by the fair trade rules set up by the association.

"Teeth" of the association's rules of trade practice is its shopping service. All dealers are shopped regularly, and violators are brought to the office by their distributor for a conference with the secretary of the organization.

First offenders are let off with a warning, but any further infractions by the dealer are brought up and discussed in open meeting, and the distributor is required to take definite action in the case.

The association's revised rules of fair trade practice, adopted this year, govern selling prices, discounts, policy on discontinued models, icebox trade-ins, home demonstrations, financing, and advertising policies. They read as follows:

1—**Retail Selling Price:** It is suggested that the minimum retail selling price, as registered by distributor with secretary of association, of a new household mechanical refrigerator shall be established by contract under the provisions of the Fair Trade Act of Ohio, plus:

(a) State sales tax, as required by law.

(b) Any installation labor or material not included in the recommended installed price, such as electric wiring or floor plugs, remote installation of compressor, etc., at not less than cost.

2—**Exceptions:** It is suggested that the following exceptions shall apply to the above price:

(a) Sales to members of dealers' organizations when for the personal use of such buyer.

(b) Sales to public, religious, and charitable institutions, for use in such institutions, a discount of not

(*Concluded on Page 16, Column 1*)

May Refrigerator Tax Double 1936 Figure

WASHINGTON, D. C.—Excise tax collections on mechanical refrigerators during May totaled $2,219,202.24, compared with $846,609.45 during the same month last year, according to information released by the Bureau of Internal Revenue of the Department of Commerce.

Copeland Distributor for Northern Indiana Named

SOUTH BEND, Ind.—Davidson Sales Co. has been appointed distributor of Copeland household and commercial refrigeration products in a number of northern Indiana counties. J. E. Davidson is president of the company. Mr. Davidson has been active in northern Indiana appliance distributor and dealer association activities.

Wisconsin Ruling May Eliminate Price Cutting

MADISON, Wis.—In a unanimous decision, the Wisconsin supreme court last week upheld the constitutionality of the state fair trade act, through which manufacturers of trade-market merchandise may set minimum retail prices. Similar laws have been passed by more than a score of state legislatures this year.

The decision is hailed by leaders in the retail appliance field as insuring a means of eliminating unfair and unwarranted price cutting by a small number of dealers, to the detriment of the entire field.

The United States Supreme Court recently upheld the constitutionality of a California law achieving the same end, but differently constructed. Last week's decision on the Wisconsin law is believed to open the way for a similar law in every state, as either one act or the other can be adopted to constitutional limitations peculiar to any state.

Wisconsin's supreme court reversed the decision of a lower court, which ruled the act invalid in that it delegated legislative powers to private individuals in setting prices, and that the manufacturer involved in the action, an Illinois firm, was selling its products in interstate commerce.

"The fair trade act does not fix prices or require prices to be fixed," the court ruled. "It does not regulate anything or anybody. It is permissive only. It is limited to merchandise

(*Concluded on Page 16, Column 2*)

Tecumseh Sales Staff Meets at Factory

TECUMSEH, Mich.—Sales representatives of the refrigerator division of Tecumseh Products Co., manufacturer of "Chieftain" compressors and condensing units, met here June 25 for a discussion of products and sales plans. Presiding was R. W. Herrick, president of the company.

Addressing the meeting, C. M. Brown, general manager of the refrigerator division, pointed out that the Tecumseh plant was laid out especially for producing precision built compressors. Tecumseh compressors, Mr. Brown said, are manufactured in single, twin, and four-cylinder models, rating from 350 to 8,350 B.t.u. per hour 90° condensing medium, and are assembled in glass-enclosed rooms where only filtered dust-free air is admitted.

Frank Smith, sales manager of the refrigerator division, told representatives that sales during 1936 were 144% above those of the previous year, and that for the first five months of this year sales were 97% higher than for the same period of 1936.

New developments were discussed by Jens Taulberg, chief engineer.

District managers present for the meeting included George Bauer, Chicago; Jules Benecke, St. Louis; T. A. McLaren, Los Angeles; and George I. Boone, New York City. At the meeting, it was announced that Dale F. Bowen has been appointed to handle "Chieftain" sales in the southeastern section of the country.

Midwest Stamping Plans Plant Expansion

GALESBURG, Ill. — A building program involving three new additions, installation of another porcelain furnace, and revamping of plant layout to accommodate increased business for 1938 has been announced by Midwest Stamping & Enameling Co., manufacturer of household and commercial refrigerator cabinets.

One new addition, a warehouse

(*Concluded on Page 16, Column 3*)

Strike Settled; Kelvinator Plant Is in Production

Summer Sales Drive With New Instalment Terms To Start Immediately

DETROIT — Production was resumed Monday morning, June 28, in the plants of Kelvinator division, Nash-Kelvinator Corp., ending the sit-down strike which had kept the plant inoperative since June 10.

Shipments of Kelvinator electric refrigerators and other products made by the company will be resumed immediately. A summer sales promotional program entailing double the amount of newspaper advertising used last year, and featuring better terms for instalment buyers, will be launched in the very near future, the management announced.

A settlement reached by company officials and Mechanics' Educational Society of America, sponsoring union of the strike, at about 1 p.m. Friday provided for a wage increase for all office employes receiving less than $150 per month, and settlement of other differences by mediation which is to begin within seven days of the plant's reopening.

Evacuation of the plant took place late Friday.

Kelvinator representatives in the final conference were: Alex J. Groesbeck, attorney; H. G. Perkins, vice president; and G. V. Pollard, general manager. The union was represented by Matthew Smith, national secretary, and Orville Plake, head of the union's shop committee at the Kelvinator plant.

Crosley's Agreement Is With A. F. of L. Union

CINCINNATI — Crosley Radio Corp. and Local B-1061 of the International Brotherhood of Electrical Workers, A. F. of L. affiliate, have agreed on a closed shop contract for the company's 2,900 production employes, wage increases ranging from 5 to 8 cents an hour, and minimum starting wages of 50 cents an hour for men and 40 cents for women.

The contract recognizes the union as sole bargaining agency for workers, and provides that all Cincinnati factory employes may become members. It establishes an eight-hour day, 40-hour week, time and a half for overtime work, and double time for Sunday and holiday labor.

Brief vacations with pay are provided, persons employed for one year receiving two days; two years, three days; three years, four days; and four years or more, five days.

The contract, which runs for one year, prohibits strikes or lockouts within its term, provides that employes who report for work and find none available at their regular posts are to be transferred to other work or given credit for two hours' time.

Rehiring of employes after layoffs is to be done on the basis of seniority, and promotions are to be based on seniority, efficiency, and need, with preference given to residents of Cincinnati.

Crosley Lets Contract For Cabinet Plant

CINCINNATI—Contract to build Crosley Radio Corp.'s new refrigerator cabinet factory at Richmond, Ind. has been awarded to the John L. Mueller Co., Richmond contracting firm, announces Vice President and General Manager Lewis M. Crosley.

Work on the plant, a one-story structure 1,200 x 200 feet, will be started immediately, Mr. Crosley said. Cost is estimated at approximately $1,000,000.

SPECIALTY SELLING IDEAS

Appeals to Husband's Chivalry, Wife's Desire for Comfort Featured in Reading Utility's Kitchen-Modernizing Program

READING, Pa.—Appeals to the chivalry of the husband as well as to the housewife's instinct toward comfort and self-preservation characterize the seven-week spring campaign for kitchen modernizing being conducted by Metropolitan Edison Co.

"Three Easy Steps"—advertising, promotion, and selling—is the campaign theme as announced by B. D. Barr, advertising and sales promotion manager for both Metropolitan Edison and New Jersey Power & Light Co.

Advertising mediums include newspapers, posters, direct mail, and window displays. Copy tells the housewife how to save time, money, and health and how to escape drudgery; and it also addresses the husband.

The husband, it is pointed out, enjoys modern time and work savers in his own business, and the wife deserves similar consideration in her role as manager of the household. Emphasizing this point are humorous pictures showing the husband being forced to peel potatoes and wash dishes in an old-fashioned kitchen.

Other advertisements stress how low prices, small down payments, and easy terms make it possible for modest-budgeted families to own a modern kitchen. Plans for a program lasting as long as four years, during which a kitchen can be modernized a little at a time, are suggested.

Promotion of ensemble sales by dealers is being done by taking advantage of the average person's interest in drawing up plans for the future. Prospects are asked to design plans for modernizing their own kitchens.

Direct-mail to the most likely prospects precedes each salesman's call.

As part of the National Kitchen Modernization program, Metropolitan Edison Co. is planning to offer a kitchen planning service to its customers soon.

Reasonable quotas have been established for members of the sales organization. To facilitate recording of the progress made, a point system has been devised. Prizes for salesmen are also being offered.

New Device Measures Operating Time of Appliances

INDIANAPOLIS—The Electronic TimeOmeter, an automatic clock mechanism for measuring the time of operation of intermittently operated electrical devices such as refrigerators, oil burners, and air-conditioning equipment, has just been placed on the market by Electronic Laboratories, Inc.

The device is designed to provide dealers and service men with a means of demonstrating to customers the exact period of operation of a refrigerator during any three or four days. It may also be used in determining operating costs, since the wattage drain of most refrigerators is known and the power company rate is available.

In the installation of a refrigerator the meter may be used for the first few days to determine the most economical location for the unit. In service shops the meter may be used to determine whether correct adjustment has been obtained, and whether it is functioning normally.

To connect the TimeOmeter the refrigerator is plugged into a receptacle on the side of the meter, and a cord attached to the meter is plugged into the power line socket. An indicator lamp on the face of the instrument glows when the device being tested is in operation.

The meter is calibrated in minutes and in hours, the hour hand making one revolution every 60 hours, the minute hand every hour. It is claimed the meter will test any device with a wattage rating lower than 500. Price of the meter is $15.

Salesman Specializing in Farm Problems Makes 4 Sales in Every 10 Calls

SHEBOYGAN, Wis.—A special rural territory salesman, using a "friendship" technique, has been one of Sheboygan Appliance Co.'s biggest business-getters, reports George Resch, owner-manager of the store. The firm handles Frigidaire household refrigerators, ABC washers and ironers, Quaker oil heaters, and Stromberg-Carlson and Delco radios.

Contacting rural prospects only, the company's rural salesman averages four sales for every 10 families called on, according to Mr. Resch. The salesman carries no samples and does not force his sales talk on prospects. He first tries to make friends of them, keep them friends, and then wait his chance to sell.

By keeping well posted on farm problems, the salesman gains the respect and friendship of farmers, and can discuss intelligently the subjects that interest them most. He collects bits of helpful information that he passes on to his farmer acquaintances.

Without concealing his desire to sell appliances, this salesman studies to make his approaches to rural prospects unhurried. When the subject of home appliances is opened, he makes the most of it, but frequently he just "visits." He often make five or six calls on a single prospect before closing a sale.

Knowing that farmers continually come to town to shop or seek amusement, the salesmen invites them to use the appliance store as their headquarters—rest, leave their parcels there, and the like.

The time spent in the store gives the farm wife a chance to see the appliances and whet her appetite for them. And the store's hospitality disposes her and her husband to feel friendly toward the company. When the time comes that the family feels it can afford to purchase, this appliance store naturally has first chance to sell.

One of the most effective means of finding active rural prospects for appliances is to attend farm sales. And this the salesman does, carefully writing down the names of those who bid on auctioned-off appliances. He follows up his list later.

To back up the salesman, continual newspaper advertising of the lines it handles is done by the appliance company.

Another aid to the rural salesman, according to Mr. Resch, is the fact that farm people are more talkative and neighborly than city dwelers. The farm wife who is satisfied with her appliance will tell all the neighbors, and she is not afraid to name those of her acquaintances who are good sales prospects, said Mr. Resch.

Cooperative Campaign Stresses Economy

LEXINGTON, Ky. — Advertisements used in a cooperative advertising campaign being sponsored by 13 electric refrigeration dealers discuss economy and efficiency of electric refrigeration but mention no brand names. Also emphasized is the fact that more than 8,000 electric refrigerators are now in use in Fayette county.

Participating dealers are: John Faig & Son, Sears, Roebuck & Co., Combs Lumber Co., Bain Hardware Co., Sterling Electric Co., Baugh & Garner, Inc., Lexington Utilities Co., Inc., Montgomery Ward & Co., Glenn & Co., Inc., C. F. Brower & Co., J. D. Purcell Co., Leet Bros., Wheeler Furniture Co.

Display Trailer Now Used by Jamaica Refrigeration

LONG ISLAND, N. Y.—Jamaica Refrigeration Service, Stewart-Warner dealer, has acquired a coach trailer equipped to display its appliance line.

Dealer Offers Year's Free Electricity to Purchasers

KENOSHA, Wis. — Zabel-Martin Co., Inc. is offering free electricity for one year to purchasers of Grunow refrigerators.

Jackson, Mich. G-E Dealer Sponsors Cooking School

JACKSON, Mich. — The General Electric Store, G-E appliance dealer, sponsored a cooking school June 3 and 4 under the direction of Miss Lois Baker.

Cooperative Kansas City Campaign Aimed At 19,000 Non-User Prospects

KANSAS CITY, Mo.—Ten distributors, 27 dealers, and 260 salesmen participated in a cooperative campaign on electric refrigerators during March and April of this year, reports G. W. Weston, secretary of the Electric & Radio Association of Kansas City, which sponsored the drive.

As a result of the campaign, refrigeration sales during the first four months of the year were 5% higher than during the same period of 1936, Mr. Weston reports.

Preceding the drive proper, a house-to-house canvass during January and February turned up 19,000 non-users living in single family residences. The campaign was aimed largely at these prospects, their names and addresses being put on a four-section card.

Every week, each cooperating dealer was given prospect cards in proportion to the number of his salesmen and the selling job they did in the preceding week.

Calling on these prospects, salesmen handed out a pyrex custard cup and part of the prospect card, telling the prospect that five similar cups were hers free by calling at the dealer's store.

Salesmen received brand new dimes, brought in from the Denver mint, for each prospect called upon. In a prize contest accompanying the campaign, 39 prospects who called at dealers' stores won a total of $475 in cash, awards ranging from $100 to $5.

Seventeen bulletins were sent to all dealers and salesmen during the drive, keeping them informed of progress, and the 50 high men were given a banquet at the close of the campaign, in Hyde Park hotel.

Results of the campaign, in addition to higher sales previously listed were: 33% of the prospects contacted called at dealers' stores; more than 50,000 custard cups were given out; and a large number of prospects were obtained, for follow-up after the close of the original campaign period.

Return Clause Avoids 'Approval' Sales

McPHERSON, Kan.—No "approval" or "demonstration" sales are made by Green Electric Co., but a dual-provision return clause in every sales contract makes it possible for the company to compete with home demonstration policies of other dealers, according to Mark and Ross Green, proprietors.

The two provisions upon which customers may return boxes follow:

1. The company guarantees, on a contract deal, to take back the unit any time within the first year and allow the full original price on any new box the customer may desire.

2. The company agrees to exchange the box any time within the first 30 days for any other make or model that the customer desires.

The Green brothers assert that these two concessions sound reassuring to the customer, but do not affect the soundness of the sale. The first provision has never been utilized, and only twice has use been made of the box exchange clause.

Group Advertisement Promotes Individual Mansfield Showings

MANSFIELD—Twelve local refrigerator dealers recently cooperated in presenting new models by promoting showings in their respective showrooms with a special section in the local press.

News articles in this section called attention to the benefits of mechanical refrigeration and emphasized the outstanding features of various makes.

Participating dealers were:

Bell Music Co. (General Electric); The Gas Co. (Electrolux); Holland Appliance Co. (Norge); W. E. Jones Piano House (Crosley); National Electric Co. (Fairbanks-Morse and Universal); Ohio Fuel Gas Co. (Electrolux); Ohio Public Service Co. (Westinghouse); O.P.S. Electric Shops, Inc. (Westinghouse); Quality Furniture Co. (Grunow); Richland Electric Co. (G-E); Rogers & Co. (Kelvinator); Sears, Roebuck & Co. (Coldspot).

GO Gilmer for

V-BELTS THAT FIT

◆ Gilmer V-Belts are "tailor-made in the grooves," on the world's largest assortment of V-moulds.

◆ Made for more models in more sizes for more makes.

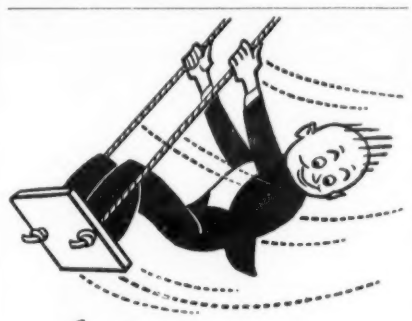
◆ Easier to find the belt that *fits* the job.

◆ Your Gilmer jobber carries complete stocks—always ships promptly—gives you better service so you can serve customers quickly.

◆ Why bungle? Why run risks? Time is money—and *Gilmer has the belt!*

FREE 120-page catalog FREE

L. H. GILMER CO.
Tacony, Philadelphia
The Oldest Firm of Rubber Fabric Belt Specialists



Swing OVER TO SURE PROFITS!

No Repair Problems To Worry You With COOLERATOR!

Every time you sell a Coolerator, you keep the *entire* profit on that sale. You never need spend a penny of it for service. For this amazing air-conditioned ice refrigerator has no machinery, no moving parts to get out of order. What's more Coolerator is easy to sell. Here's why:

● PRICED LOW: Big family size only $79.50. Others as low as $39.75.

● NEW FEATURES: Completely air-conditioned . . . no danger of mingling food flavors . . . no rapid drying out of foods . . . beautiful "swingline" cabinet . . . ice cubes in 5 minutes.

● PROVEN SUCCESS: Backed by powerful national advertising, already more than 300,000 Coolerators have proud owners.

● COMPLETE LINE: From compact 2½ cubic foot size to spacious 50 cubic foot commercial model.

Want more facts? Write, wire, phone:
The COOLERATOR CO., Duluth, Minn.

Swing OVER TO Coolerator
The Air Conditioned Refrigerator

THE MASTERCRAFT
ADJUSTABLE PAD AND CARRYING HARNESS
FOR SAFE DELIVERY OF AUTOMATIC REFRIGERATORS

Pad and harness ADJUSTABLE to many sizes and styles of cabinets. Economical—Efficient. Sturdily constructed, easily applied. Name of refrigerator attractively lettered on pad without charge.

Pad (Adjustable) $9.50 ea.

Harness (Adjustable) $6.00 ea.

The Pad and Harness are separate.

Individual carrying straps $1.75 each and up. Write for 1937 Folder & Prices on entire Pad Line.

BEARSE MANUFACTURING CO.
3815-3825 Cortland Street, Chicago, Illinois

WOLVERINE COPPER TUBING

For Air Conditioning. Fits any standard sweat fitting. Your jobber carries Wolverine Types K, L, M, made to ASTM Specifications.

WOLVERINE TUBE COMPANY
1411 CENTRAL, DETROIT Sales Offices in Major Cities

Allen Points to History of Other Products As Answer to 'Saturation Bugaboo'

(*Concluded from Page 1, Column 2*)

full sized products. (The automobile industry found out they didn't want extremely small models).

"So I think the trade-in and secondhand refrigerator market will be the solution to provide these low income brackets with full sized refrigerators at prices which they can afford to pay.

"In this whole consideration of saturation, we must bear in mind the fact that we Americans must always have the last word in everything regardless of whether we can afford it or not.

"In Europe today they are selling electric refrigerators which will probably function in the same family for generations. In America Mrs. Housewife will insist on buying a new electric refrigerator a couple of years after she bought her last one, because the new refrigerators are streamlined, more efficient, or have some new trick gadgets.

"Therefore, in all our thoughts on saturation, don't let us forget that that the American public will always continue to discard their electrical devices long before they have worn out, and buy new ones; provided, of course, we manufacturers can keep on changing the modes and our utility and dealer friends aggressively point out the new advantages to the public.

"The other avenue for selling full sized, good refrigerators to low income brackets is by the time-payment plan, which is an old story with us. However, this is again taking a leaf out of the book of automobile experience, as liberal time-payments plus trade-in of secondhand cars has been the successful solution of the low income bracket problem."

Building up his case against the "saturation bugaboo," Mr. Allen cited the electric iron, which despite a saturation of 93% showed sales of almost 4,000,000 last year, an increase of 29.8% over 1935.

Turning next to the electric range, which he said is agreed on as "the next major appliance that is going to sell in large volume," Mr. Allen pointed out that approximately 1,750,000 ranges were in service at the start of this year, and that the market is only 8% saturated.

For the past several years, he said, electric range sales have increased at the rate of more than 50% a year, as great a rate of increase as that which refrigeration enjoyed in its earlier days.

Estimated sales this year will be around 425,000 units, he added, which means $12,600,000 additional in utility revenue, and a value of $50,000,000 in retail sales price.

There is every reason to believe that the electric range will meet the "million per year" class within the next three of four years, and will continue at that, or a better pace for years to come, he stated.

In the last decade, he said, range prices have been lowered, while quality and appearance have been improved. Lower power rates, easier installation, trouble-free operation, and the fact that the public now looks on the electric range as the modern thing point to a rapidly growing business.

"As a step by step method to a complete electric kitchen moves onward, markets will be created for dishwashers, better lighting, and many other electric appliances which today are just entering the promotional stages," he said. "We can easily see as a goal now an individual kitchen market of around 5,000 kwh. per home.

"Almost 25 million homes have a radio today, and you'd think we'd reached the limit of purchasing for this product," Mr. Allen said. "Yet 8,825,000 receiving sets with a retail value of more than $500,000,000 were sold in 1936.

"Practically every home in the country that does its own laundry has a wash tub or washing machine. At least our market analysis has presented a sad and sorrowful picture for this product. The washer is one of four appliances that have a market saturation of more than 50%.

"And yet this industry, an industry that needs its own linens washed, sold more than a million and a half (1,528,585) units in 1936, and rang up more than $100,000,000 on the dealers' cash registers of this country.

"We have let this 'saturation' cloud befog our vision of the merchandising visibilities. In spite of the fact that **as we have reached the mythical saturation point we have actually increased our sales,** we have only four appliances that have passed the half-way mark—radios, washers, toasters and irons.

"And don't let us for a moment forget that there is a brand new market just beginning to open up. I refer to rural electrification.

"When you try to sell electrical merchandise to a woman in the city, you will probably find that she has all but one or two devices. When they run the wires into a farm, you open up an absolutely virgin customer to whom you can sell everything from a refrigerator to a curling iron—and that statement is not a fairy tale because some of our men to whom I have talked and who have had experience in these recently electrified districts, tell me that the farmer and his wife are never satisfied until they get all the electrical conveniences which the city folks have."

Copeland Launches July Sales Contest

DETROIT—To keep its retail salesmen on their toes and out for business during the hot July days, Copeland Refrigeration Corp. is launching a $10,000 "Go-Getter" sales contest from July 1 to 31, with a factory bonus of $2 on each delivery made during the month, in addition to a grand national and four district merchandise prizes.

Every Copeland retail salesman is eligible to compete in the contest and to share in the cash and merchandise awards.

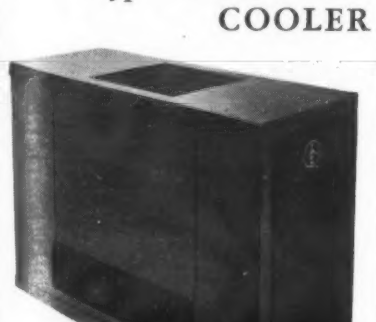
Each delivery must be reported to the Copeland factory not later than five days after date of delivery, and must be filled out on the standard report form and include the purchaser's signature. Only reports dated between July 1 and 31 will be eligible for prize credits or cash bonus.

The national grand prize, a Copeland model 937 refrigerator selling at $255, will be awarded to the salesman making the highest number of deliveries during the contest period.

Four district prizes will be awarded the four top salesmen in each of the five sales districts into which the country has been divided for the contest. First prize is a superheterodyne console type radio, with telephone-type tuning; second prize, a Copeland washer; third prize, a Sunbeam Mixmaster; and fourth prize, a Nesco Roastmaster.

In a broadside announcing the contest, Copeland urges its retail salesmen to "Forget that July vacation trip! Make the extra cash earned this month pay for it in August!"

Floor Type COMFORT COOLER



LOW PRICED

For Homes, Offices, Stores
Compact, Attractive Cabinet
Very Quiet

Made in 1/2, 3/4, 1 ton sizes

Direct Expansion
Cold Water Circulation

Prompt Shipment
Write today for specifications and prices

•

Information on other floor type units sent on request

•

SAM KENNARD, *Inc.*
3333 MARKET ST.
ST. LOUIS, MO.

French Indo-China Railway to air condition 22 cars with "Freon" refrigerants*

EVEN in the far parts of the world, "Freon" fluorine refrigerants are used in air conditioning systems—providing maximum safety in office buildings in Shanghai, in gold mines in Africa, now on railroads in French Indo-China, where Carrier Engineering Corp. will air condition 22 passenger cars. Wherever human life and property require protection, "Freon" refrigerants are used.

It is natural and significant that "Freon 12" is the refrigerant almost exclusively used on mechanically cooled railway trains. For "Freon" refrigerants are completely safe. They are non-flammable and non-explosive, non-poisonous, odorless when mixed with air up to 20% by volume. They have no harmful effects on foods, clothes, furs or flowers.

"Freon" refrigerants have been tested by the U. S. Bureau of Mines and meet all the specifications set by the Underwriters' Laboratories of Chicago in their recent report "Standard for Commercial Refrigerating Systems" (Subject No. 207).

"Freon" refrigerants are today providing safe air conditioning in schools, hospitals, theatres, offices and homes; in restaurants, in ships and submarines; in mines deep underground; in factories, stores and hotels. The overwhelming preference for "Freon" shown by so many manufacturers and users of air conditioning equipment demonstrates their sense of responsibility for human health and safety, and their determination to provide sure protection against the slightest menace to it.

For safety and efficiency in your air cooling system, specify "Freon" refrigerants.

KINETIC

*"Freon" is Kinetic's registered trade mark for its fluorine refrigerants

FREON
REG. U. S. PAT. OFF.
safe refrigerants

KINETIC CHEMICALS, INC., TENTH AND MARKET STREETS, WILMINGTON, DELAWARE

COMMERCIAL NEWS

'Hiking Ambassador' Builds Good Sales Record on Universal Cooler Equipment In Northern Ontario Mining Country

GERALDTON, Ont., Canada — Walking his way to most of his sales, M. A. (Mel) Denby has earned for himself the unofficial title of hiking ambassador in the Long Lac mining country (in northwest Ontario near the Manitoba borderline) for the Bell Refrigeration Co., Winnipeg, distributor in this territory for Universal Cooler Co. of Canada.

Mr. Denby has been selling Bell and Universal Cooler products here for a little more than a year. He came to Geraldton firmly resolved to sell everybody in general and the mining companies in particular. He has sold 12% of his prospects, which, considering the type of business and the type of customers, is a pretty good record.

On his frequent and usually long hikes to prospects, Mr. Denby always travels light, packing a low minimum of necessities in his knapsack. It is no easy matter to walk about one's business in this part of the country, because the "terra" is by no means "firma."

Mr. Denby has found that the springy, treacherous muskeg (a mossy bog dotted with clumps of coarse grass) which takes up a large part of his tramping ground is much less inducive to traveling on foot than are good, firm roads.

But there are extremely few good, firm roads around here; so Mr. Denby has to take to the muskeg a good deal of the time. Occasionally, though rarely, he hires a taxi at an exorbitant rate.

It is most difficult in the winter, when temperatures swoop to —45° F., and snow piles up thick and fast.

A typical short jaunt is the one Mr. Denby made from Hutchison Lake mine to Geraldton to check up on some equipment. The distance is eight miles, and on that particular occasion Mr. Denby had to return the same day, making the round trip just about a normal day's travel.

On another occasion, Mr. Denby and two companions tramped 23 miles from Geraldton to Coniagas mine on the hunt for business, returning, again on foot, the next day. That outing and the 40-mile, two-day round trip from town to Tashota mine represent Mr. Denby's longer business jaunts.

During November of last year, in which month the mine managers start worrying about January's ice harvest, Mr. Denby traveled 340 miles on foot to talk to those managers at the psychologically opportune moment.

Three mines have been especially well-covered by Mr. Denby. The Hutchison Lake outfit, which has no electric power supply, bought a 10 x 5 cabinet with manual controls, operating twice in 24 hours, and having holdover coils maintaining temperatures of from 32 to 38°.

Mr. Denby sold another 10 x 5 box, equipped with shelves, rails, and an air-conditioning coil, and an ice maker of a capacity of 8 lbs. per day, operating on ¾-hp. Universal Cooler compressors to the Sand River and Leitch mines.

Similar equipment was sold to the Bankfield mine, and lesser equipment to numerous other mines still in the early stages of development.

Mr. Denby's trade in Geraldton itself is rapidly picking up, keeping in step with the town's growth. He has sold a refrigeration and air-conditioning coil and a walk-in cooler to Harry Sawchuck, butcher; a cabinet equipped with an air-conditioning coil and a ½-hp. unit to the Geraldton Meat Market; a 10-ft. Bell double-duty refrigerator case to Mike Perozak, grocer; an oak-finished Bell reach-in box to the Cabin Cafe; and and a walk-in cooler to the Columbia Cafe.

In the neighboring town of Beardmore, Mr. Denby has also drummed up a number of sales, some of them being:

National Cafe—Universal Cooler unit, Bell walk-in cooler, and Universal Cooler combination ice cream cabinet; Northland Cafe—Bell reach-in box and Universal equipment; A. Salem, butcher — air-conditioning equipment and walk-in cooler; Greg Fraser, butcher and grocer—standard walk-in cooler with manual controls.

New Cordley Water Cooler Fits Heavy Industrial Use

NEW YORK CITY—Newest addition to the Cordley line of electric water coolers is the T-12, a model with high cooling capacity to fill the requirements of industrial plants and departments where heavy labor operations result in workmen's consuming a more than average amount of water.

In an 80° room with 70° inlet water, the cooler will deliver 15 gallons per hour. Its reserve storage capacity is 2½ gallons, to take care of "peak" demands, occurring at certain hours in the day when cold water requirements are higher than usual.

The T-12 is equipped with an extra cold water outlet, for hookup to a remote bubbler when desired. It can be supplied with a gooseneck glass filler as part of the top plate equipment; or a glass filler only may be had for installation where the cooler is to be used primarily for filling thermos jugs, carafes, etc.

In common with the rest of the Cordley line, the cooler is a complete self-contained package-type unit, with all parts accessible for adjustment and lubrication. Water temperature is thermostatically controlled, and may be adjusted to suit individual requirements.

Orders for the units have been received from the Ames Worsted Co., Southbridge, Mass., the Alexander department stores, New York City, and Kendall Mills, Walpole, Mass., report Cordley & Hayes officials.

Refrigerated Trailers for Boat Service Planned

MUSKEGON, Mich. — Plans for maintaining a fleet of refrigerated truck bodies to transport perishable commodities by boat across Lake Michigan to Milwaukee, where a fleet of tractors will take them to markets in the Northwest, are being completed by Muskegon Produce Mart Corp.

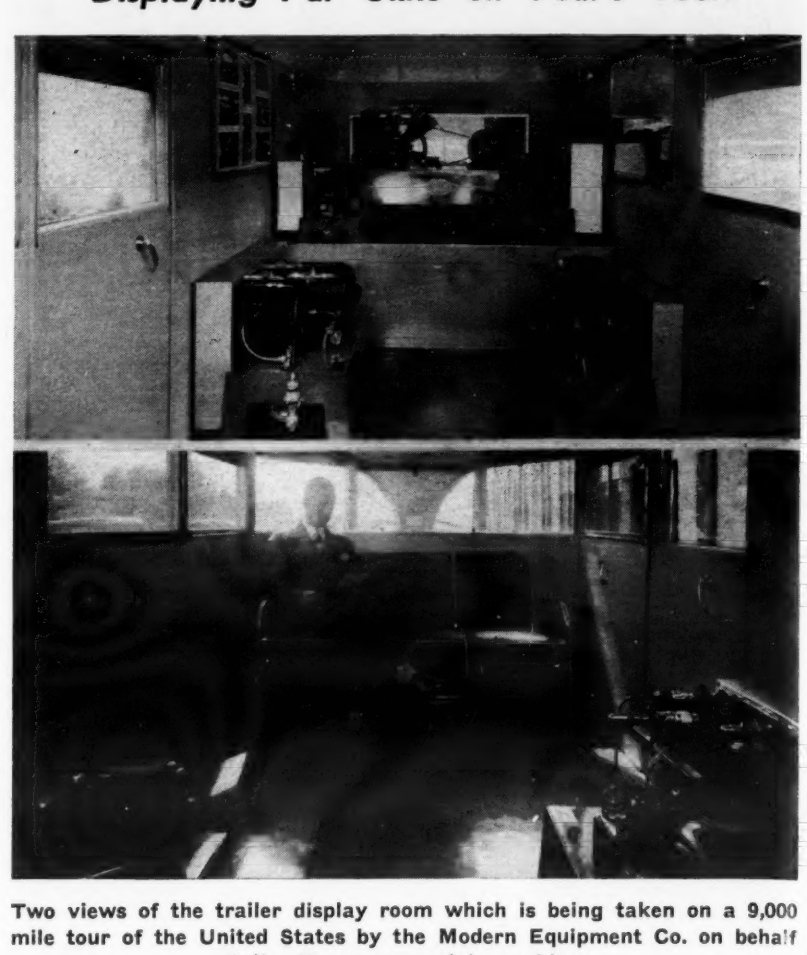
The company is awaiting approval of the Wisconsin public service commission, which regulates truck transportation in that state, before placing the project in operation.

G. E. Prater, manager of the terminal's produce operations, said perishable goods to be shipped in this manner would be pre-cooled in the organization's cold storage plant before being loaded into the refrigerated truck trailers. He asserted that perishables handled in this way could be safely shipped from 500 to 1,000 miles.

Fetzer Refrigerator Handles McCray in Louisville

LOUISVILLE — Fetzer Refrigerator Co. has replaced Fetzer Bros. as McCray distributor here. C. L. Fetzer is operator of the new company.

Displaying Par Units on Year's Tour



Two views of the trailer display room which is being taken on a 9,000 mile tour of the United States by the Modern Equipment Co. on behalf of its Par commercial machines.

* * *

Cloud & Son to Handle Pelco in Michigan

DETROIT—Cloud & Son have opened headquarters at 2995 Grand River Ave. here as distributor of Pelco beverage coolers for all of Michigan with the exception of five counties.

J. W. Grimes, in charge of operations from the Detroit office, states that dealers will be appointed in the outstate districts.

Cloud & Son is a wholesale drygoods and equipment firm which has headquarters in Rochester, Ind. Last year the company sold more than 500 Pelco beverage coolers in the Indiana territory. Sales are continuing at a rapid pace this year, with one Indianapolis salesman for the company reporting 29 sales in 30 days.

Mills Novelty Co. Opens Display Room in Dallas

DALLAS—Mills Novelty Co. has opened a display room here for Mills counter freezers, according to Herbert Chandler, district manager.

Shultz Co. Installs G-E Equipment in Dairy

ERIE, Pa.—Arthur F. Schultz Co. has installed General Electric ice cream cabinets and refrigeration in the Erie Dairy Products Co. plant.

Trailer Displays Commercial Line

DEFIANCE, Ohio—Equipped as a complete showroom and office, a deluxe Aero-Car display trailer was recently launched on a 12-month, 9,000-mile business tour of the United States by the Modern Equipment Corp., manufacturer of Par commercial refrigeration condensing units.

Installed in the trailer is an operating display of Par condensing units, both air and water-cooled models, ranging from ¼ to 3 hp. The rear section of the trailer is fitted out as a compact, miniature office, in which L. M. Snell, the company's special refrigeration salesman in charge of the traveling display, will do much of his sales work.

During its extended journey, the showroom-on-wheels will visit every major marketing center in the country, contacting distributors and assistant distributors of Par commercial equipment, refrigeration supply jobbers, and manufacturers engaged in the commercial refrigeration field.

Dallas Koch Dealer Moves To New Location

DALLAS—Dorbandt Electric Refrigeration Co., Koch commercial refrigeration equipment dealer, has moved to a new location at 2125 Commerce St. Ross Dorbandt is president and general manager.

THE Hill REACH-IN REFRIGERATOR

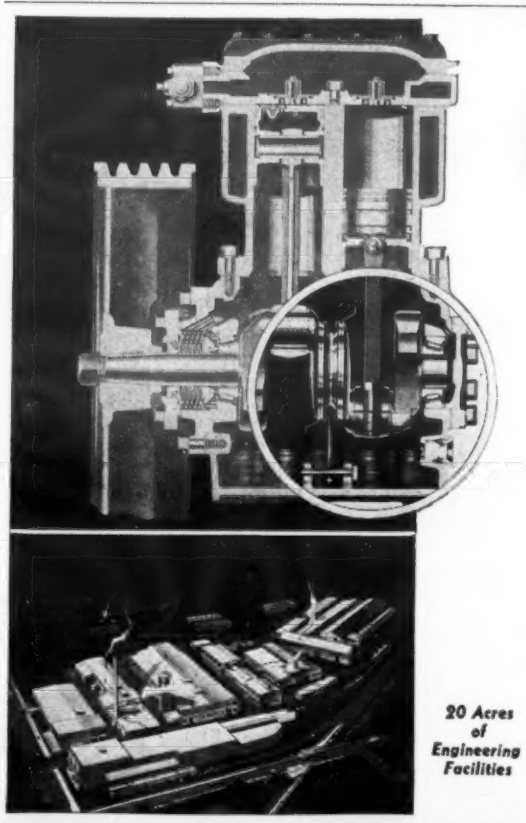
Made Especially for HOT KITCHENS

Here is a box with heavier insulation, to keep down operating costs; all-porcelain exterior and interior, to withstand hard usage; better refrigeration, to prevent spoiling and drying; and many other features.

• Send for complete illustrated 32-page catalog using business letterhead.

Note thick center of low conductivity corkboard insulation and also insulating board covering entire exterior, including frame.
THE Hill TRENTON, N.J.

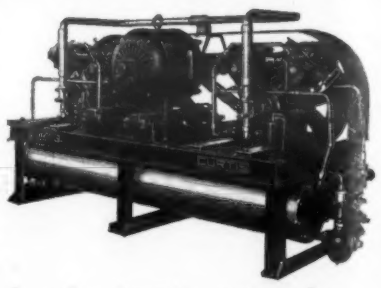
HILL PRODUCTS DIVISION
C. V. HILL & CO., INC., TRENTON, N.J.



20 Acres of Engineering Facilities

Only CURTIS HAS CENTRO-RING

POSITIVE PRESSURE LUBRICATION



Only one moving part in the Curtis "Centro-Ring" oiling system—no gears—no plungers.

Other high-efficiency features include — Timken tapered roller bearings, V-type radial compressor, water-jacketed heads and cylinders, built-in oil separator with automatic return, drop-forged, heat-treated crankshaft and rods, balanced syphon bellows seal, and automatic water valves.

Forty-one Curtis air-cooled units ranging in size from 1/6 H. P. to 5 H. P., inclusive, and 45 water-cooled units of from 1/3 H. P. to 30 H. P., comprise the line. There's a model for every refrigeration or air conditioning requirement.

Curtis condensing units are the development of 82 years in engineering of which 15 years have been devoted to refrigeration.

Represented in Canada by
Canadian Curtis Refrigeration Co., Ltd.
20 George St., Hamilton, Ont., Can.

CURTIS
CURTIS REFRIGERATING MACHINE CO.
"Builders of Condensing Units Since 1922"
1912 KIENLEN AVE. ST. LOUIS, U. S. A.

Pelco Appoints 19 New Distributors In Past Month

BLOOMINGTON, Ill. — Nineteen new distributors for Pelco electric beverage and food coolers have been appointed within the last month by Portable Elevator Mfg. Co., according to E. W. Jones, manager of Pelco's commercial refrigeration department.

Mr. Jones also reported that increased production had necessitated placing the Pelco factory on a 24-hour-day operating basis.

New distributors and their locations follow:

Jennings Refrigeration Co., Asheville, N. C., will cover 17 counties in that state; Union Supply Co., Burlington, Iowa, will cover three Iowa counties; Rural Electric Service Co., Calvert City, Ky., will cover 16 counties in that state and four in Illinois; Furnas Ice Cream Co. will cover the Des Moines, Iowa, territory.

Cloud & Son, Detroit, will cover the territory surrounding that city; McWilliams Hardware & Furniture Co., El Dorado, Ark.; W. W. Silkworth, Flint, Mich.; Shield Co., Fort Worth, Tex.; Boomore Electric Sales Co., Hartford, Conn.; Orient Air Conditioning & Commercial Refrigeration Co., Jersey City, N. J., will cover all of northern New Jersey.

Lassers Furniture Co., Kankakee, Ill., will cover Kankakee county; Standard Refrigeration, Long View, Wash.; Clausen Refrigeration Co., Missoula, Mont., will cover six counties in Montana and one in Idaho; Ward Hardware Co., Moscow, Idaho; Commercial Distributors Co., Newton, Iowa, will cover 35 Iowa counties.

Lewis & Carnell Co., Philadelphia, will cover eight counties in Pennsylvania, eight in New Jersey, and the entire state of Delaware; Boxer Fixture Co., Portland, Ore., will cover the entire state of Oregon; Motor Supply Co., Savannah, Ga., will cover five South Carolina counties; MacDougall & Southwick Co., Seattle, will cover all but nine counties in Washington.

Pottsville, Pa. Dealers Hold Cooperative Showing

POTTSVILLE, Pa.—The five companies which comprise the Commercial Electrical Dealers' Association cooperated in a showing of commercial refrigeration and air-conditioning equipment June 7 to 12 in the Brenneman building.

Participating dealers were: Reiley's, Frigidaire; Pottsville Show Case Co., Fogel; Hummel's, General Electric; Biehl's Auto Parts, Kelvinator; Pottsville Electric Refrigeration Co., Servel.

AT NO EXTRA COST...

these engineering features for display cabinet doors

THE new Ace "Loxit" hard rubber assembly units have deservedly won the enthusiastic endorsement of manufacturers as well as dealers—because of their notable engineering improvements. Complete "Loxit" units—doors . . . rails . . . jambs—*at no increase in cost*—include these up-to-the-minute structural features:

1. Locked-in, lift-out doors
2. Tightly closed overlap
3. Reduced air leakage
4. Roller bearings
5. Quiet closure
6. Lighter weight
7. Greater strength
8. Shock absorbing jambs

Available in a wide range of sizes—for regular Display Cabinet types. Storage and service doors, glazing strips, trim, etc. Manufacturers: Write for complete details and prices to

AMERICAN HARD RUBBER CO.
11 Mercer St., New York, N.Y.—Akron, O.
111 West Washington St., Chicago, Ill.

ACE "LOXIT" PATENTED DOORS

York Announces New Commercial Coil

YORK, Pa.—A new commercial "high-test" fin coil, designed to fit a wide range of applications in walk-in butcher boxes, grocery store refrigerators, display cases, restaurant and hotel refrigerators, florist refrigerators and cases, and other uses, has recently been announced by the commercial division of York Ice Machinery Corp.

The coils will be tailor-made to fit individual jobs, and manufactured in fin sizes of 3 x 3 inches with fin spacing of ⅜, ½, and ¾ inches, as well as in sizes of 1¾ x 1¾ inches with fin spacing of ⅜ and ½ inches, all coils with ⅝-inch refrigerant tubing.

Manufacturing organization to build the new coils has been installed in eight York branches, located in Los Angeles, Seattle, Houston, Omaha, Chicago, Cleveland, Atlanta, and York.

Coil materials were selected after thorough research. With the exception of the copper tubing, all coil parts are made of aluminum, making it possible to produce a coil that does not require exterior finishing such as painting, lacquering, galvanizing, or tinning.

No separate return bends are used in the new coils.

Taylor Introduces New 2½ Gal. Freezer

BELOIT, Wis. — Taylor Freezer Co., manufacturer of ice cream equipment, has just introduced the model 5, a 2½-gallon freezer mounted on a cabinet, with hardening space for 60 gallons of ice cream in packages or 40 gallons in cans, and 20 gallons of mix space.

The unit is 62 inches long, about 2 feet shorter than other freezers of similar capacity, Taylor officials say. Freezing rate of the unit is 15 gallons an hour, with a freezing and hardening capacity of 40 gallons in 16 hours.

Featured in the new model is Taylor's direct-expansion semi-flooded system, which is said to cause faster freezing by bringing the refrigerant into direct contact with all sides and the closed end of the inner freezer shell. Model 5 also has Taylor's "ever-seal" topless cabinet.

The unit is designed for use in establishments which have limited freezer space but high ice cream production requirements.

Meat Kept below 40° in Refrigerated Truck

BENNINGTON, Vt.—Two to three tons of certified milk and dairy products are carried at temperatures between 35° and 38° F. during a 13-hour run through Massachusetts and New York in a new mechanically refrigerated truck built for Fillmore Farms, Inc. here by Andrew J. Ronan, Albany, N. Y.

Refrigeration is supplied by three Kold-Hold units hooked up to a Kelvinator compressor. The body is insulated with 2-inch Dry-Zero Sealpad in roof, sides, and ends, and with 4 inches of cork in the floor.

The refrigerated body is mounted on a White chassis.

Kold-Hold Unit Cools 3 Compartments in Truck

GRAND FORKS, N. D.—Three Kold-Hold units operating off a York compressor refrigerate the three-compartment truck recently built for Red River Produce Co. here by Smith Commercial Body Works, Inc. of Fargo, N. D. The truck was designed to carry ice cream, bottled beer, and draught beer.

The ice cream compartment is insulated with two layers of 3-inch Dry-Zero blanket in walls and roof, and with 6 inches of cork in the floor. The other two compartments are insulated with 2-inch Dry-Zero blanket in sides, ends, and roof, and with 2 inches of cork in the floor.

The two front compartments are equipped with doors on the curb side, while the door to the rear compartment is in the end of the truck. The body is mounted on a Trailmobile drop frame chassis equipped with a new International "D" 40 tractor.

Cutler Resigns as Commercial Head of Warren Norge Co.

NEW YORK CITY—Resignation of M. E. Cutler, head of the commercial department of Warren Norge Co., Norge distributor in this territory, has been announced by C. B. Warren, president.

Mr. Warren himself is now handling the commercial department. He is being assisted by the following members of his staff: H. B. Towbis, T. C. Norris, Francis Byerly, and E. E. Robinson.

Potts & Bartless Added to Phifer Smith Staff

KNOXVILLE, Tenn. — William V. Potts and H. S. Bartless, sales engineers, have been added to the staff of Phifer Smith, York distributor in this territory.

Hill Opens Branch in Dallas

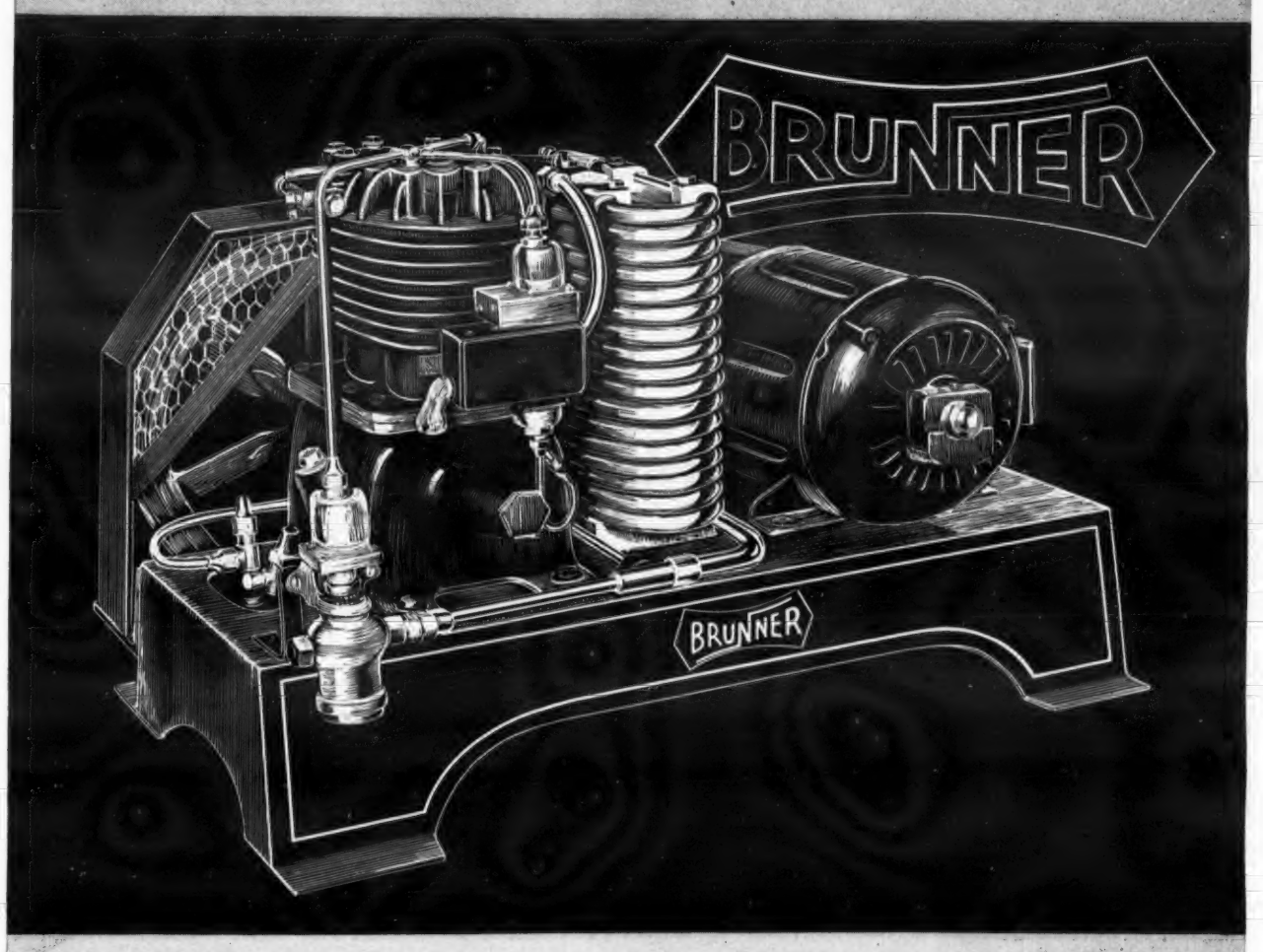
DALLAS—C. V. Hill & Co. has opened a branch here for the sale of refrigeration and store fixtures.

Two Fogel Double Duty Cases Installed by Importing Co.

WILMINGTON, Del.—Two Model 5,000 Fogel double-duty display cases, one 8 feet long and the other 10 feet long, have been installed by the Tripoli Importing Co. for the storage and to maintain the proper preservation of the imported cheeses it handles.

Display sections of the cases are used to show the line of cheeses and other imported delicacies to prospective buyers.

THE BRONZE BEARING FOR THE PISTON WRIST PIN IS ACCURATELY DIAMOND BORED TO INSURE PERFECT ALIGNMENT AND MINIMUM WEAR

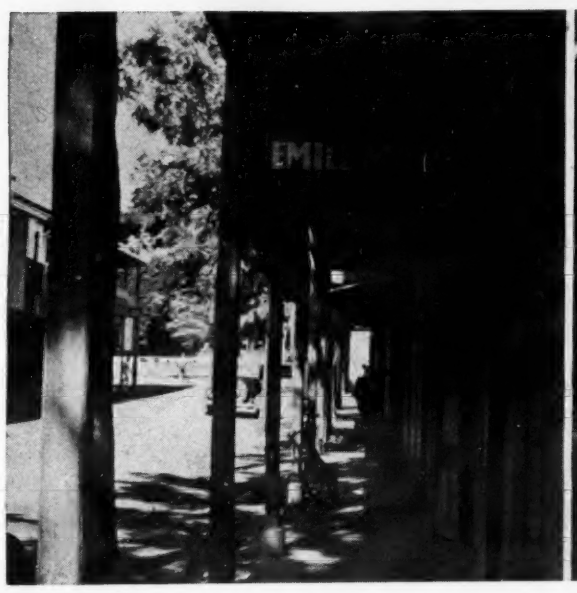


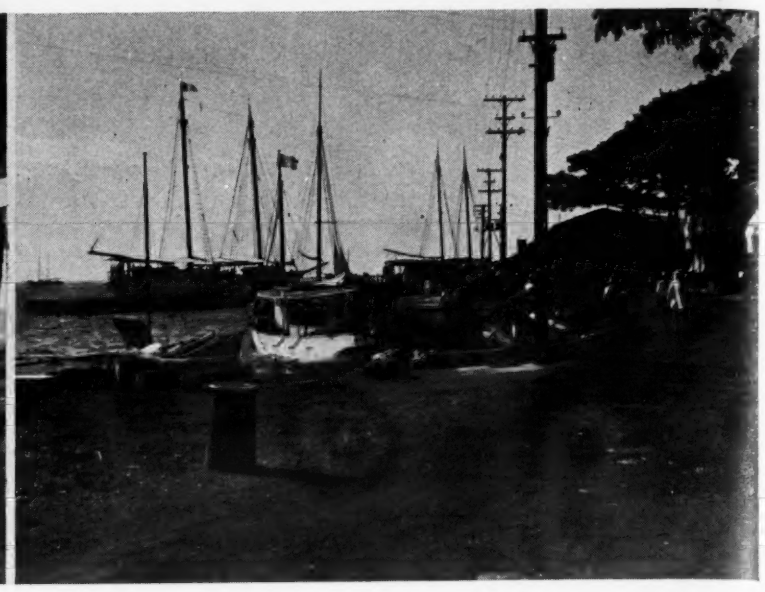
Just a detail? Of course it is. Yet upon the precision and durability of the piston pin and bearing depend to a large degree the life of the refrigerating compressor. Here is an element taking a considerable number of rotations per minute—and riding on cast iron won't do. This explains why the Brunner engineering specifies a hard bronze alloy at this vital point, and extreme accuracy of boring and alignment. • • • • Just listen to a Brunner snap "on" and quietly purr—whether it's new or many thousand tons of refrigeration old. Extremely quiet! Naturally this means less wear and tear, greater serviceability. • • • • You'll be interested in a detailed study of the Brunner construction and range of models, comprising 47 Condensing Units, air and water cooled for practically all refrigerating and air conditioning applications. Full information for quick reference in the Brunner Refrigeration Catalog. . . . Your copy will be mailed promptly on request. Brunner Manufacturing Co., Utica, N.Y., U. S. A.

BRUNNER

BUILDS FOR *Greater* DEPENDABILITY

Refrigeration Is a Monoply in Tropical Paradise of Tahiti





(1) Emile Martin, Crosley dealer and "public utility" operator, has the only refrigeration franchise in Tahiti. Here is his headquarters—typical of the main business district in Papeete, capital city. (2) Tropical foliage makes Papeete's wide thoroughfares always restfully shady. (3) Trading vessels anchored off Papeete. Tahiti is an out-of-the-way spot—it's hard to get in or out.

Refrigeration—and other things In Tahiti, Romantic Isle Of the South Seas

George Christensen, author of this article, is on the staff of Charles T. Winegar, director of personnel for the Chrysler Corp. He is perhaps better known as a football player, especially as right tackle for the Detroit Lions, world champions in 1935.

When Editor Taubeneck started on his trip around the world in 1936, Mr. Christensen went along as far as Hawaii, first leg of the journey.

In this article Mr. Christensen first recounts amusingly a few random impressions of the fabled island of Tahiti—which is far out in the Pacific Ocean, somewhere between South America and New Zealand—and then gives the results of his interview with Crosley Dealer Emile Martin, whom he calls "the one-man gang of refrigeration in Tahiti."

By George Christensen

PAPEETE, Tahiti—Shortly before leaving the States, my best friend and roommate, George Taubeneck, asked me to get what data on electric refrigeration and air conditioning I could in Tahiti.

Now, I have never been a reporter before, and this will probably be my last attempt. Not that I wouldn't like to be reporter, but it seems to me that it's like golf—you have to start when you are young. Hence I think that it may be proper to tell you of a few of my difficulties in getting and writing this story.

In the first place, I didn't know how to type; so I bought a typewriter in Los Angeles and practiced every night on the boat, all sixteen days of the trip. Unfortunately, I wear a size ten glove; and my typing is comparable to Primo Carnera trying to fit in with the Ballet Russe.

Next, although George had given me a list of questions to ask, because of my lack of technical knowledge I couldn't understand the answers. Lastly, this blamed climate is hardly conducive to work. Sitting here on the veranda of my Tahitian hut with the ocean twenty feet away, now and then glancing up and watching the huge breakers coming over the reef a quarter of a mile out, and resting my head against a cool sea breeze, I find things very pleasant. It is hardly an atmosphere in which one can easily think of volts, kilowatts, units, etc.

Nevertheless, friendship and promises are not things to be held lightly, and here is the result of my observation and inquiries.

ON SHIPBOARD

With my traveling companion, Leo Welling, I left San Pedro harbor on the Union Steamship Co.'s 5,000-ton coalburner, the **S. S. Wairuna**, and had a quiet but very enjoyable voyage down here to the Society Islands.

The **Wairuna** carried only six passengers. The other four were all residents of Tahiti who had been unable to return for five and a half months, due to the fact that there was no boat service.

One of the passengers, Max DuPont, who is a photographer here in Tahiti, took his wife and daughter to the States to get fitted for glasses, and to take care of a little business. He expected to stay about a month and then return to his work here.

But he arrived in the United States right in the midst of the longshoreman's strike; and was getting rather desperate when he finally got passage home on the **Wairuna.** I have never seen anyone so hysterically happy to be home again as Mr. DuPont was when we came into the harbor at Papeete.

The sixth passenger was a 21-year-old Tahitian boy who had been working in "pictures" (Hollywood) and going to school in Los Angeles. You will probably see him as one of the drummers in Bing Crosby's picture, "Waikiki Wedding." (George's friend, Shirley Ross, is also in that film, I believe.) He was really a little boiling pot, all by himself. His father told me one evening that his son was French, Raratongan, Tahitian, English, Scotch, Spanish and Turkish.

CONCERNING DR. HEISER

The day before I left Detroit I went up to say goodby to President K. T. Keller of the Chrysler Corp. He gave me a book, and insisted that I read it before landing in Tahiti. The title of the book was **An American Doctor's Odyssey,** by Victor Heiser. When I was about four days out of San Pedro I came across in this book a paragraph wherein Dr. Heiser wrote about his travels on the Union Line.

He said that one evening he was awakened by a severe pain in his toe, and soon discovered that a big rat was gnawing on it. The more he shook it the more tenaciously it hung on. He finally pulled his foot on to the bed, and the rat scampered off.

He also mentioned that a traveler on that line did not need to trim his corns, as the cockroaches and rats did a very nice job for you. According to Dr. Heiser, the rats eat down to where the flesh is tender, and then the subject moves his foot and the rats leave.

The officers and passengers of the **Waruna** all ate at one big table; so the next day at lunch I took the book with me, and after the first course had been served, read the passage out loud to everyone, and very innocently asked if such a thing could be true.

The officers were all very indignant, and a couple of them called Dr. Heiser a "bloody liar." I am glad to say that we had no such conditions on our boat. It was a coal-burner, and there was always a little soot on the decks, but our cabin was immaculate at all times.

The food was excellent, and there was always plenty of it; but the nicest thing of all was the personnel of the boat. We could go any place on the ship any time we wished, and no favor seemed too small to be done to insure our comfort.

FEMININE LAUNDRY

Shortly before arriving in Papeete, all the sailors began hanging out huge washings. Not only had they laundered their own clothes, but there were also dresses, panties and whatnots. I examined these rather closely, and discovered that the dresses were made of good material, but probably fashionable in about 1920.

So I asked some of the sailors where they got these femininities, and what they were going to do with them. This is the story:

It seems that in San Francisco peddlers go aboard the boats that are bound for the South Seas, and sell the sailors old-fashioned dresses, which are in good condition, for about ten cents apiece. The panties and the other expedition equipment of this nature are bought at Woolworth's or some similar store at a very small price. (I suppose that with the modern wear and tear on these articles it is impossible to buy them second hand.)

Some of this wearing apparel is traded for little things that the natives make; and the rest is given to native girls for any "slight" favors that the latter may wish to bestow upon them.

SAILOR'S PARADISE

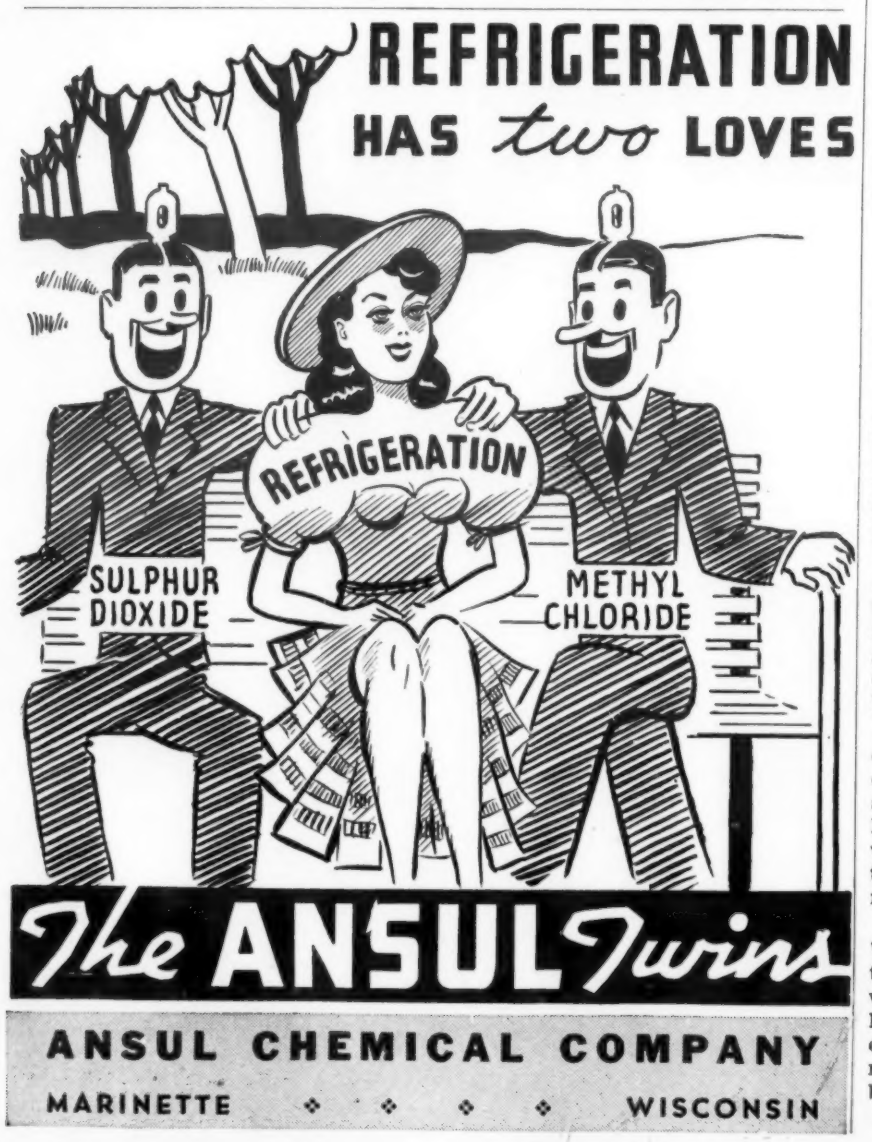
All of the sailors look forward with great anticipation to calling in Papeete. You have probably all heard that ship captains in the "old days" dreaded to call here, because so many of their crew would desert. I can't vouch for the old days but after talking to a great many seamen I am convinced that this is still a sailors' paradise. The only difference is that modern times have made it economically inadvisable for them to desert here. All they need here is a dollar and a half or two dollars (to be spent largely for drinks) and they can go out with a beautiful Tahitian girl and have a grand time.

We entered the lagoon in the harbor of Papeete at 5:30 in the morning, just as day was breaking. As we approached the wharf we could see the dim figures of people coming from all directions to meet the boat.

The **Wairuna** was the first boat to bring mail from the States in five and a half months, and consequently everyone was hoping that in the 273 bags we carried there would be a little for themselves.

Our big disappointment was the first impression we received of the natives. One reads so much of the beautiful Tahitian girls that one expects all the natives to be nice looking. However, the real Tahitian is very coarse-featured. There may be an attraction in the dark skin, but if the girls were white you

(Continued on Page 7, Column 1)



PERFECTION
Refrigeration Valves
are *Certified to Excel*

Ask for catalog covering complete line of Valves, Fittings, Condensing Water Regulators, and Parts for Compressors.

PERFECTION REFRIGERATION PARTS CO.
HARVEY, ILLINOIS

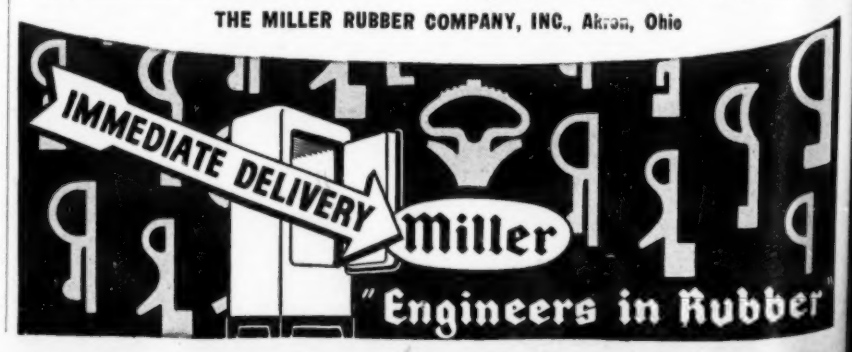
LET DOOR GASKETS BE YOUR BUSINESS GETTERS

Refrigerator owners will not call for you until they *have* to. But why *wait* for that call? Every refrigerator that is over five years old is in need of new door gaskets. That's your cue for *new* business and *more* business. Offer a complete gasket inspection and replacement service. Not only is this profitable business in itself—it gives you a chance to check over the entire mechanism as well.

Miller makes this service easy and profitable. From the Miller simplified line of 20 gasket types, you can service 80% of all boxes — and remember — Miller makes by far the majority of gaskets for refrigerator manufacturers, and the Miller Replacement Gaskets are made from the original specifications and dies—accurately made for specific boxes.

Ask your local jobber today about Miller Replacement Gaskets or write direct.

THE MILLER RUBBER COMPANY, INC., Akron, Ohio



After Copra

This native is climbing a palm to knock down cocoanuts, the dried shells of which (copra) are Tahiti's leading item of export.

Christensen Fails to Find Tahiti Natives 'Unspoiled Children'

(*Continued from Page 6, Column 5*)

wouldn't give most of them a second glance.

There are, however, a great many half-castes who have fine features; which, combined with their rich, smooth skin, make them very attractive. When romantic authors speak of the lovely Tahitians they surely must be referring to the half-castes.

The most unusual thing here is the complete indifference (that is, from the moral standpoint) with which the people regard sex. Probably in a few years the learned commentators in America and Europe, who write great volumes on how intricate sex is, will finally descend on these islands and make every native think that he or she has an individual problem; but as yet, sex to the Tahitians is a simple function that is hardly treated as a delicate subject.

I recently met a Lady Coventry (a lovely Tahitian girl) who is, at the present writing, getting a divorce from Lord Coventry. The trouble, I believe, was that his Lordship was continually bringing other native girls home with him. This seemed to displease his native wife very much. It is also alleged that he has the inconvenient habit of getting drunk every day.

I have seen this English nobleman several times, and I would say that his little woman had ample reason for her slight peeve.

A great many writers speak of the natives as unspoiled children, innocent and carefree, and thinking nothing of the morrow. Now the last statement may be true, but as far as the rest of the description is concerned, I'm inclined to believe that such writers are either publicity men or have been taking a little too much hop.

WHERE 'NO' MEANS 'NO'

After staying in Tahiti a month and a half I am firmly convinced that the "playing" of a great many of these so-called children is a little too rough for me—and I have been used to some pretty rough games.

One evening I was sitting in one of the night clubs, if they may be called that, when an English sailor asked one of the native girls to dance. The girl evidently didn't feel in the mood, and refused.

The sailor didn't seem to want to take "no" for an answer, and tried to pull the delicate Miss to her feet. She got to her feet, all right, but gave him a healthy clip on the chin that knocked him cold. He had to be packed out of the place. After that demonstration I decided that the Tahitians could hardly be called gentle children.

A white man was telling me about one of his former mistresses, and how, without the slightest provocation, she would start cracking his guests over the head with bottles. There would be days at a time when he was afraid to go home, and would have to spend the nights with the neighbors.

Male natives solve this problem by giving their wives frequent and regular beatings, so as to keep them in line a bit. The white man, with his code of gentility, doesn't seem to think this procedure is in keeping with his cultured background—so he is the one that suffers.

Papeete, the principal city on the Island of Tahiti, is not an attractive city in the American sense. The vegetation thereabouts is really beautiful, as it is in most tropical spots; but the buildings are ramshackle, and lack the neat fronts that American places of business usually have.

COMMERCIAL CHINESE

Most of the commercial enterprises are run by Chinese. There is a population of about 7,000 people in the city of Papeete; or, to be exact, 7,061, according to the 1931 census. The total population of the island is 16,781 people. They are divided by nationalities as follows:

French	4,976
Natives	8,037
Chinese	2,954
Other Asiatics	35
Other Europeans	86
Americans	143
British	243
Floating	307
Total	16,781

Despite much information to the contrary, most of the people of Tahiti resent the great influx of Chinese to the island. They quite often come as poor coolies, rent a bit of land, and in a few years pop out as prosperous merchants. On practically all islands in French Oceania there are stores owned and operated by Chinese.

Natives go into debt easily, and by accumulated foreclosures, the Chinese manage to acquire quite a cut of property.

ABOUT MR. MARTIN

As soon as I found a place to live, and had moved my bags there from the hotel, I went around to call on Mr. Emile Martin, the only refrigeration dealer in Tahiti.

On my first call Mr. Martin was not in; and the only person in the office was his son-in-law, Mr. John Gilbert (no relation to the late movie star). Due to my inability to speak French, and to his poor English, I had to terminate my interview rather quickly.

Mr. Martin was in when I called again, as was his son. His office was rather barely furnished, as are most Tahitian offices; but directly behind his desk are two Tahitian statues which are quite praiseworthy and which are said to be highly valuable. On the walls are displayed the son's electrical engineering diploma from a French university, and pieces taken from the boat that Martin, senior, used to sail from Tahiti to Chile.

Mr. Martin is a pleasant-looking gentleman, about 50 years of age, born in Tahiti. He was educated at Santa Clara in California, where he studied for eight years. Later he continued his academic pursuits in a French university. He was extremely courteous, and with the aid of his son answered everything that I asked as fully as I wished.

His father was in the French navy, and first came to Tahiti in 1863. He later quit the navy and moved to Tahiti. He captained the first mail boat from Tahiti to Chile, and later was master of the first mail boat from Tahiti to San Francisco.

ONE-MAN MONOPOLY

Mr. Martin is a sort of "one man gang" of the refrigeration business in Tahiti. He owns the power plant, and is the only dealer in refrigerators. He sells them so cheaply that he cuts out practically all competition, because he is anxious to have the refrigerators in use so that he can sell more power. As he says, "I sell them ice boxes and then sell them the juice."

He sells Crosleys only. In the two years that he has been in the business he has sold about 50 of them.

Within the next year or so, Mr. Martin feels he may sell about 20 more units. This will be close to saturation of the present market.

There are a few refrigerators of other makes in Tahiti, but all these have been bought directly from "the States." Most of these are General Electrics.

Name of his company is Hablissements Martin. He also sells Crosley radios, although he is not the sole agent for these in the Society islands.

POWER RATES

Rates for current in Tahiti—the only one of the islands that has electric power—roughly are four francs (about 19 cents—exchange was about 22 francs to the dollar when I was there) per kilowatt hour. It is AC, 60-cycles, 110 volts. Merchants and large users (like the government) get some reductions.

This current is produced by three generators, two of which are run by gas engines, one by a Diesel.

"The Chinese," declares Mr. Martin, "are fine people. They make money, have money, and spend money. They buy electric current, and they buy refrigerators. And the Lord knows refrigerators are needed in this climate."

When Crosley was making a 2-cu. ft. model, Mr. Martin found a fairly good market for them. He sold 10. These, however, he can no longer get.

(*Concluded on Page 8, Column 5*)

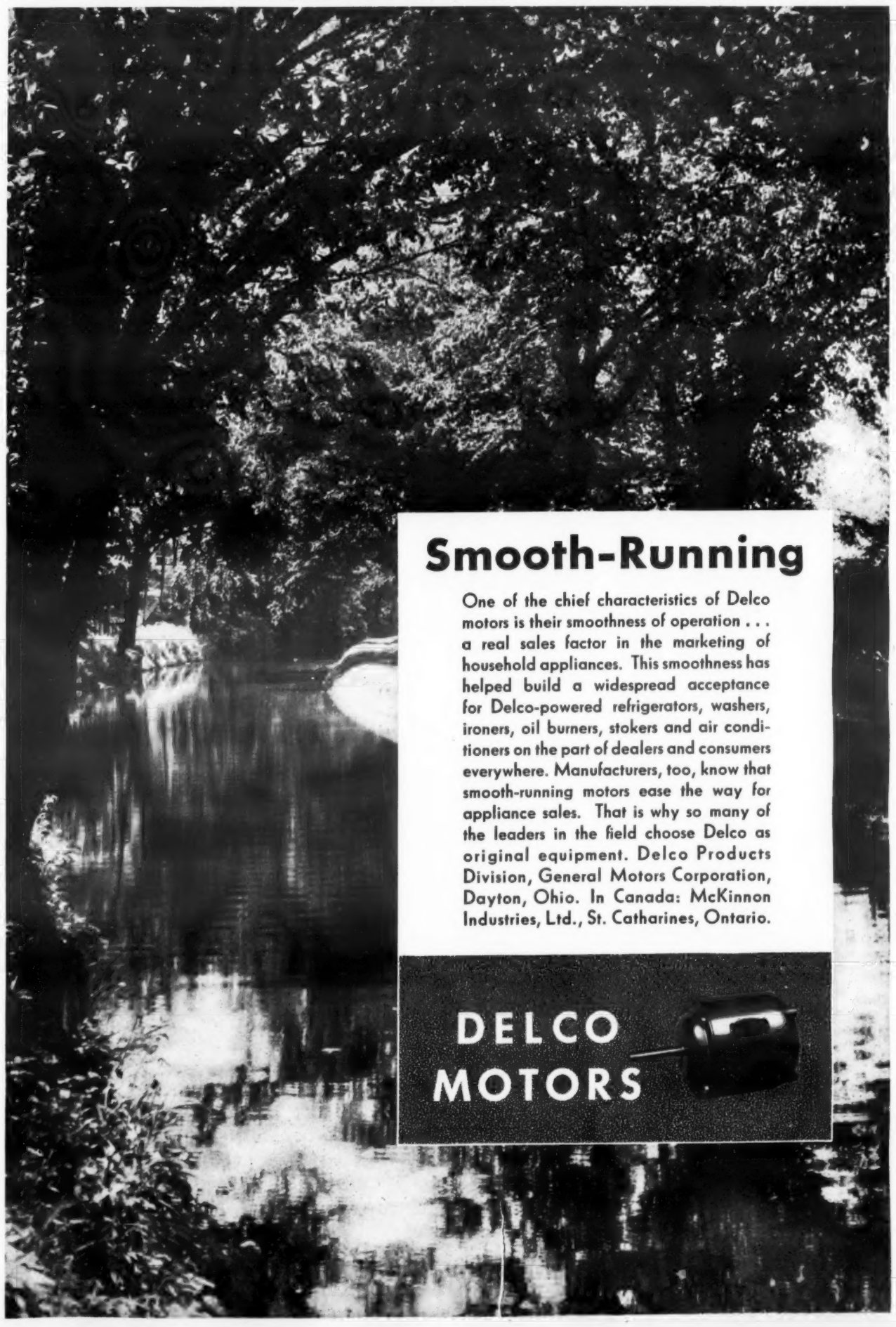
"Yes, that's right—Copelands. We tried them in three of our stores and the results were so completely satisfactory that we now have installed them throughout our entire chain."

That's the way Copeland users talk. And that's why Copeland Commercial Refrigeration units are so easy to sell.

Write for our Sales Plan

COPELAND

REFRIGERATION CORPORATION . . . DETROIT, MICHIGAN



Smooth-Running

One of the chief characteristics of Delco motors is their smoothness of operation . . . a real sales factor in the marketing of household appliances. This smoothness has helped build a widespread acceptance for Delco-powered refrigerators, washers, ironers, oil burners, stokers and air conditioners on the part of dealers and consumers everywhere. Manufacturers, too, know that smooth-running motors ease the way for appliance sales. That is why so many of the leaders in the field choose Delco as original equipment. Delco Products Division, General Motors Corporation, Dayton, Ohio. In Canada: McKinnon Industries, Ltd., St. Catharines, Ontario.

DELCO MOTORS

CONDENSERS
COMMERCIAL EVAPORATORS
DOMESTIC EVAPORATORS
COMFORT COOLERS
MARKET COOLERS
AIR CONDITIONING SURFACE
UNIT HEATERS
BLAST HEATING SURFACE

McCORD
REFRIGERATION AND AIR CONDITIONING PRODUCTS

CATALOGUES ON REQUEST

McCORD RADIATOR & MFG. CO.
DETROIT, MICHIGAN

VIRGINIA SMELTING Company
WEST NORFOLK, VIRGINIA
131 STATE ST. BOSTON-76 BEAVER ST. N.Y.

EXTRA DRY
ESOTOO
LIQUID SULPHUR DIOXIDE
V-METH-L
VIRGINIA METHYL CHLORIDE

AIR CONDITIONING AND REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office; Established 1926 and registered as Electric Refrigeration News

Published Every Wednesday by BUSINESS NEWS PUBLISHING CO. 5229 Cass Ave., Detroit, Mich. Telephone Columbia 4242. Cable Address: Cockrell—Detroit

Subscription Rates
U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order. Notice: Please do not pay money to strangers claiming to represent this paper. We employ no subscription solicitors. Send orders and remittances by mail.

F. M. COCKRELL, *Publisher*

GEORGE F. TAUBENECK, *Editor*
PHIL B. REDEKER, *Managing Editor*
THEODORE T. QUINN, *Assistant Editor*
WINIFRED HUGHES, *Assistant Editor*
Departmental Editors:
K. M. NEWCUM, *Refrigeration Service*
F. O. JORDAN, *Air Conditioning*
Staff Reporters:
WILLIAM H. LONG, ALFRED JONES, and JAMES MCCALLUM

R. T. CARRITHERS, *Advertising Mgr.*
HELEN K. GILMORE, *Asst. Adv. Mgr.*
JAMES B. SMITH, *Asst. Adv. Mgr.*

JOHN R. ADAMS, *Business Manager*
ROBERT P. NIXON, *Asst. Business Mgr.*
JEAN H. ADAMS, *Subscription Manager*
LOLA E. DEW, *Circulation Manager*
WINIFRED MERSON, *Spec. Representative*

Advertising Representatives:
John B. Gallagher Co., Inc.
11 W. 42nd St., New York, N. Y.
Pennsylvania 6-1380
Lewis & Noelle
612 N. Michigan Ave., Chicago, Ill.
Superior 8550

Member, Audit Bureau of Circulations
Member, Associated Business Papers

VOL. 21, NO. 9, SERIAL NO. 432
JUNE 30, 1937

Copyright, 1937, Business News Pub. Co.

The Shoe Is on The Other Foot

AT the midsummer conference of the National Retail Dry Goods Association in Chicago last week, a rather surprising figure was disclosed. Based on a questionnaire returned by nearly 300 department stores, it was revealed that the average electrical appliance department showed a loss of 5% on its year's business in 1936!

That this figure is open to considerable doubt was indicated by the tenor of the discussions which followed. In the first place, 300 department stores is but a small percentage of the total. In the second, a number of commentators felt that the stores which returned the questionnaire might not be representative.

Specialty Selling Stores Have the Edge

Most of the department store men present at the conference admitted that they had made money on electrical appliances—refrigerators in particular—in 1936. Each of these indicated that he operated his department along specialty selling lines, with an outside sales force. Those which lost money, it was felt, were probably satisfied to do an "over-the-counter" business.

Others who entered the discussion, including Chairman Herschel Lutes of the J. L. Hudson Co., Detroit, were inclined to believe that it was all a matter of bookkeeping. It was hinted, for instance, that the figure charged for general administrative expenses was too high.

Profits from Financing Instalment Paper

Some of the speakers declared that even if their appliance departments were operating at a loss, it was worth while continuing them, because they contributed to overhead expenses. And, what's much more important, the handling of the time paper on these appliances has turned out to be a very profitable business.

Apparently the purpose of the report was to give department store men a lever in securing longer discounts. Many of the commentators felt that this would be an excellent idea. They seemed in general agreement that this move would mean higher retail prices, however.

Department Store Men Seek Higher Retail Prices

Department stores, they stated, need longer margins to operate on than do smaller specialty shops. And they should be consulted by manufacturers before retail prices are established and announced, several speakers felt. These prices should be high enough to permit the average department store to make a substantial profit.

To relative old-timers in the refrigeration industry, the picture of department store executives pleading with manufacturers to raise retail price schedules will probably bring smiles. For department stores were probably the leading factor in bringing retail prices down.

When these large merchants first entered the refrigeration merchandising picture, they insisted, out of the wisdom born of experience, that department store customers would not buy items priced at more than one hundred dollars. So came the $99.50 refrigerator.

How Big Stores Knocked Refrigerator Prices Down

Encouraged by department store buyers, a number of small manufacturers of everything from bed springs to picture frames (this is neither joke nor exaggeration—look up the records) began building electric refrigerators.

These firms, desperate during the depression for something to keep their factory wheels turning, jumped into the swim. They turned out the cheapest kind of refrigerators, and sold them directly to department stores, which then advertised special sales of electric refrigerators at $99.50.

This annoyed the "legitimate" industry no end. Prices on standard makes came down, too—eventually to the $99.50 level.

In the meantime, the department stores had suffered a good many burned fingers. Service troubles on their cheap boxes ran them dizzy. And they found that their public demanded refrigerators with a proven "name."

So they continued their drive on manufacturers to get the retail prices down.

TVA Has Sad Experience With Cheap Models

In another sphere of influence, Director David Lilienthal of the TVA at the same time was demanding lower prices on refrigerators to be sold in his special area. Lawyer Lilienthal had the idea that prices were so high that manufacturers were gouging the public.

So he got a $59.50 box, only to learn the same lesson which the department stores had been taught—the hard way. People wouldn't buy these cheap refrigerators, and retailers went broke trying to sell them.

Eventually it's going to be pretty well established that a refrigerator is a rather complex, finely balanced mechanism which cannot be turned out by any tool shop "for a price." And there is a selling cost which must be figured in, too.

Public Does Not Think Prices Are Too High

That the public doesn't think refrigerator prices are too high is demonstrated by the millions which have been sold in the last few years.

Manufacturers, realizing that department stores are excellent customers, will likely refrain from saying, "I told you so." And now that the shoe is on the other foot, it would seem that the path toward retail profits in refrigeration merchandising has been cleared of one more obstacle.

LETTERS

An Explanation of Mr. Roosevelt's Methods

4115 Buell Drive
Fort Wayne, Ind.
June 26, 1937.

Editor:

Just a few words of comment on your editorial in the June 23 issue of the NEWS.

I wish to say that I agree with you one hundred per cent in your condemnation of the C.I.O. and its methods. The most disgraceful part of the whole affair is the apparent moral support of the present administration.

It is hard to believe that a man like Mr. Roosevelt, who has so accurately felt the pulse of the nation in the past few years, could allow himself to be taken in as he has on such an issue.

However, the whole controversy is not altogether a one-sided affair.

If there had not been many real causes for dissatisfaction and even despair in the lot of a large part of the laborers in industry today there would not be any opportunity for labor agitators to stir up so much trouble.

I am going to offer what to my mind is the reason Mr. Roosevelt resorts to the methods that he does to gain his ends.

Mr. Roosevelt has been in politics for a long time and he has seen many very desirable pieces of legislation scrapped that were brought forth in the conventional manner and debated in Congress.

The reason for this is that selfish interests have thrown up such a smoke screen of superfluous objections to the particular piece of legislation before Congress that they have nearly always succeeded in defeating the legislation. This is a disgraceful situation but we all know that such has been the situation and we have had a government by selfish powerful interests for a long time.

Mr. Roosevelt is smart enough to know that his own program will go the same way as those before him if he comes out into the open and he is very elusive and tricky in his methods.

The whole situation is wrong and there must be a change of heart on the part of everybody if we expect to get along harmoniously or even at all. Why not try the spirit of co-operation and mutual good will. What is wrong with the policy of treating your fellowmen as you would wish to be treated if you were in their position and dropping all the hatred and selfishness that is so rampant in the world today.

J. K. MARQUARDT.

Again, An Explanation of The 1937 Specifications

Cavers Bros.
General Electric
371 St. Paul St.
St. Catherines, Ontario, Canada

Editor:

Please find inclosed our cheque for $4.00 in payment for one year's subscription to REFRIGERATION NEWS.

When we subscribed to your magazine one of our main reasons for doing so was on account of your Specifications Issue which has proven very useful to us in other years.

Great was our disappointment when we received this year's separate booklet on Specifications. Other years you have furnished us with real information regarding the construction of cabinets and units of the various makes of refrigerators, and we have found them very useful. However, this year the specifications are of little or no use to a dealer.

May I point out some omissions and errors? Under the General Electric specifications you show that General Electric is sealed but make no mention of whether hermetically or just inclosed. You do, however, show Westinghouse as a hermetically sealed mechanism, whereas if it is, I would like to have you inform me as to how they seal up their fan motor.

These are just a couple of discrepancies which, instead of being an asset to a General Electric dealer, might be a liability when placed in the hands of a competitor.

A. A. CAVERS.

Answer: For the past five years REFRIGERATION NEWS has been collecting and publishing specifications of household electric refrigerators by means of questionnaires sent directly to each manufacturer. The data published this year (as part 2 of the March 17 issue) was compiled under somewhat different circumstances.

Members of the Household Section of the Refrigeration Division of the National Electrical Manufacturers' Association (Nema) decided last fall to collect and publish in pamphlet form specifications of their 1937 refrigerators, and refrigerators which they manufacture for other merchandising organizations.

The Nema member manufacturers furthermore decided not to make public, officially at least, any further specifications data other than that published in the pamphlet prepared under their auspices.

Permission was granted to the NEWS to reprint the Nema data as it had been published and distributed by the Nema companies. In granting this permission it was specified that the copyrighted data must appear exactly as it had appeared in the Nema booklet.

Specifications data for makes other than those manufactured by Nema companies was collected by the NEWS, and all the material for all makes was published in the one booklet.

It is true that the information was not as complete as it has been in previous years because of the fact that the Nema members decided to omit some items which had been considered very important in the specifications tabulation.

Concerning your specific inquiry with respect to the discrepancies in describing the General Electric unit, we wish to make it clear that both General Electric and Westinghouse are Nema member companies, and that specifications on their equipment appeared as they were published by these companies under the auspices of the Nema organization.

What's Included in the Specifications Book

Stewart-Warner-Alemite Co.
2425-31 McGee Trafficway
Kansas City, Mo.

Sirs:

I understand you publish a booklet for $5.00 giving complete specification on all household refrigerators.

Please check this book to see if the following information is included.

The weight of the box.
The I.M.E. rating.
The amount of insulation in inches.
The speed of the compressor.
The amount of freezing solution used (oz.).

If you find that your $5.00 book contains information as outlined above we will want to order a large quantity of them. If, however, your booklet does not cover these particular specifications we cannot use it.

P. P. RICHMOND.

Answer: Last year we published the 1936 REFRIGERATION AND AIR CONDITIONING SPECIFICATIONS BOOK, supplying data on all models of all makes for all years for both household and commercial electric refrigeration systems.

This book covered all models up to and including the 1936 models, and in answer to your specific questions, it supplied information on the weight of the box, the speed of the compressor, the amount of freezing solution usd, and the I.M.E. rating (in some cases). It specified the kind of insulation used, but not the thickness.

This book is still obtainable at a cost of $3.00 per copy.

Useful Booklet

Sterling Electric Co.
Electrical Jobbers
31-33 South Fifth St., Minneapolis

Sirs:

We have received the 1937 Household Refrigeration Specifications and Convenience Features booklet and think it is a very fine booklet.

Please send us another copy by return mail. E. A. LINDQUIST.

A Bank Messenger Is No Gentleman

Frigidaire
Edgware Road, The Hyde
London, N.W.9.
June 14, 1937.

Editor:

We are greatly interested in your article in the May 26 issue of the NEWS, describing London, but there is just one little point that we would like to draw to your attention.

Picture No. 3 at the top of Page 12 which you have captioned "London Cabby" would, I am afraid, cause apoplexy to the doubtless very wealthy owner of the barouche therein depicted. The only comfort is that to own a barouche of this type necessarily involves an opulence far greater than that usually met with among refrigeration engineers and we trust accordingly, that the owner will be spared pain.

Picture No. 2 of the financial district also indicates a lack of appreciation on your part, of the distinction in the City between a bank messenger and a gentleman. R. R. POOLE.

Refrigeration in Tahiti

(*Concluded from Page 7, Column 5*)

In general, the smallest size available seems to be the most easily sold.

SERVICE TROUBLES

Service troubles include gas leaks, and plugged or leaking capillary tubes. Porcelain enameled cabinets generally hold up better than lacquered ones, he finds, although the price differential prevents him from selling many.

Older models were not well insulated, he thought; but he has no fault to find with the insulation in those cabinets received during the last several months. Earlier models also had bothersome thermostats; this trouble has also been eliminated.

Because of the California seamen's strike, Mr. Martin had been unable to obtain any refrigerators for some five months previous to my arrival. In the meantime, the exchange rate on the franc had dropped from 15 to the dollar down to 22 to the dollar.

Just what he will charge for the next shipment of refrigerators he will receive, he does not know. However, here are the prices on those he last sold (under the old rate of exchange):

3 cu. ft.—2,550 francs.
4 cu. ft.—3,200 francs.
7 cu. ft.—7,350 francs.

He pays 22½% duty on all the refrigerators he imports.

Those two gas engines which turn his generators operate on "pauvre" (poor) gas, which is made from the burning of cocoanut husks, and is very cheap, much cheaper than gasoline. The engines were made in Switzerland.

Mr. Martin is the third man to own and operate the electric plant and system in Tahiti. His two predecessors went bankrupt; Martin is making it pay. He has some 800 customers.

The firm makes no attempt to canvass for business, or to engage in any sales promotional effort. They know practically everyone on the island, and simply take what business that comes to them, or whatever they can dig up casually, while "passing the time of day" with friends.

MARVELOUS FOOD

Most people ask me: "How is the food in Tahiti?" The answer is: "It is marvelous." Meals are regular, and full-coursed. The fish, of course, is excellent. And the pork is said to be the best in the world. Pigs are fed cocoanuts, and that really makes for sweet meat. The beef is not so good.

The French tradition in cooking holds true here, for the cooking is extremely good. Even on the neighboring island of Moorea, which is quite primitive, I had some grand meals.

Normally the natives have no refrigeration facilities. They simply buy their food daily, and use it quickly. Every morning they go to the market place to buy food and to gossip.

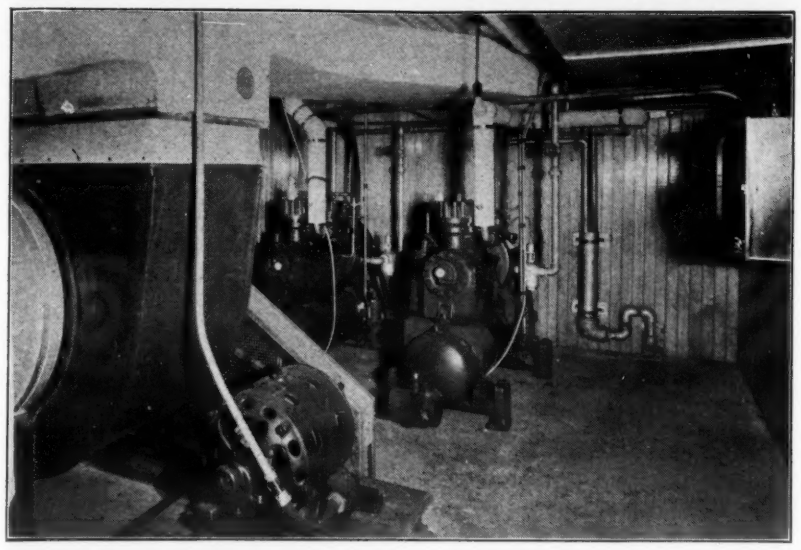
Which reminds me: There are no secrets in Tahiti. Everybody knows just what you are doing, and what you have been doing. The "cocoanut wireless" amazes white people by its speedy transmission of news and gossip.

A good many white people live there, make it their home. Chiefly these are artists and writers. A good many writes are merely "retired" to a life of fishing—which is good sport in Tahiti—or else they merely vegetate. The tropics do seem to get a hold on a man, and after two or three trips to Tahiti, it's hard to stay away, they say.

For the average person on his first trip, however, life in Tahiti is apt to become a bit dull. There just isn't much to do.

AIR CONDITIONING NEWS

Twin Compressors for Chicago Installation



The Westinghouse compressors shown in the background of the above picture serve two separate air-conditioning systems of novel design installed in a mortuary.

* * *

Dual Systems Cool Chicago Mortuary

CHICAGO — Two automatically controlled central air-conditioning systems, providing all-year comfort, have been installed in the C. Kampp & Son funeral home by Kroeschell Engineering Co. of this city.

The depression and discomfort of the average funeral service, it is claimed, is completely overcome—unpleasant temperatures and humidities, dust, and outside noises being eliminated. All air introduced into the building is completely filtered, then circulated at low velocity without drafts.

Separate systems air condition the first and second floors, each system being complete with fans and ducts.

All refrigerating equipment, including two Westinghouse sealless units with a combined capacity of 25.1 tons, plus the main supply fan and conditioner for the first floor are located in the basement. Conditioner conditioner for the first floor is installed in the attic.

Located on the first floor are a chapel, rest room, waiting room, and three private offices. On the second floor three funeral parlors, a sales office, a display room, a ladies' rest room, and a men's smoking room are served by the air-conditioning system.

Providing a complete air change through the entire building every six minutes, the two systems have a combined air-circulating capacity of 8,900 c.f.m. Capacities of 5,100 c.f.m. and 3,800 c.f.m. are reported for the first and second floor systems, respectively.

Heating during the winter months is accomplished by means of hot water. A booster pump forces the water through heating coils located in each of the air conditioners.

Pound & Moore Co. Sets Up Air Conditioning Dept.

CHARLOTTE, N. C.—Pound & Moore Co. has established a new department to handle the Delco-Frigidaire and Mueller heating and air-conditioning lines which it recently acquired.

H. C. Richards, formerly with Air Conditioning Co., has been named head of the department.

Air Conditioned Homes Of Low Cost Are Well Received in Brooklyn

BROOKLYN—Wide acceptance of the first group of low-cost air-conditioned homes by Frankson Construction Co. has made it necessary to start immediate construction of another 10 units, according to Leonard Frank Jr., construction company official.

Located in Queens and Nassau counties, these homes will sell from $3,998 up.

Frankson Construction Co. claims to have been the first building concern in this market to promote air-conditioning in single homes costing less than $5,000.

3 Birmingham Undertakers Install Air Conditioning

BIRMINGHAM, Ala.—Bidding for summer patronage, three local undertaking parlors have recently installed air-conditioning equipment.

Brown Service Funeral Co. has conditioned both floors of its new home office building, including the casket display room. To reduce the heat gain, the ceiling of the windowless second floor was provided with 2 inches of glass wool insulation. Glass wool was also used for the ducts on that floor.

Equipment used in the Brown mortuary installation includes two Carrier refrigerating units with a combined capacity of 25 tons. Condensers are of the evaporative type.

Sites of the other two installations were the Johns-Service and Ridout's funeral homes.

Conditioned Dormitories Give Hay Fever Sufferers Relief

PHILADELPHIA — Business men suffering from hay fever or other allergic disorders, instead of leaving town for the summer, may spend their nights in pollen-free comfort in the two air-conditioned dormitories recently established at Camac Baths here.

According to tests, many hay fever sufferers notice relief within 15 minutes after entering air-conditioned quarters, and often within an hour the symptoms entirely subside.

First Successful Tent Air Cooling System Used by Circus

ELIZABETH, N. J.—What is believed to be the first practical device for cooling tents, pavilions, and other "outdoor" halls is being successfully used, according to reports, in the main tent of Eddy Brothers' circus, now on tour of eastern states.

Designed by Charles J. Meyer of this city and utilizing a cooling method developed by Edwin Burborn Co. of Hoboken, the device is carried on a trailer which is placed against the sidewall of the tent, the fresh-air duct entering below the eaves.

Capacity of the cooler, it is claimed, is sufficient to service the reserved grandstand section. Additional units are being added, and, according to report, will soon make it possible to serve the entire tent.

100-Ton Dayton Job Installed By Frigidaire Dealer

DAYTON — Refrigeration Equipment Co. recently installed a Frigidaire air-conditioning system of 100-ton refrigerating capacity in the Metropolitan Co. building here.

Trane Equipment Used to Condition Restaurants

MILWAUKEE — Trane equipment was used in air conditioning the new Green Room restaurant in the Plankington Arcade here. Downey Heating Co. handled the ventilating, and Otto A. Waskow Co., the plumbing work.

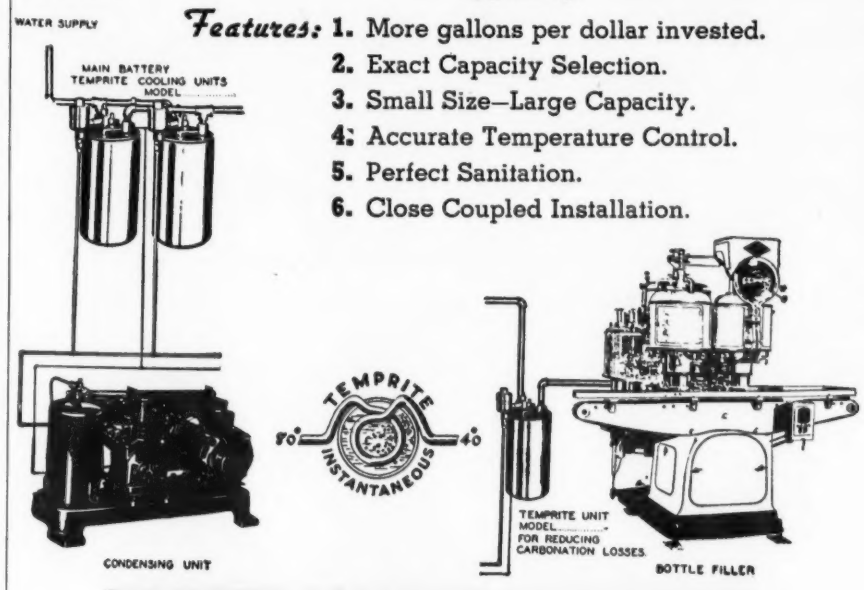
Temprite new bottling plant water cooling system arouses the bottling industry

Temprite marches ahead in outstanding liquid cooling achievements—

Now—it is the Temprite new bottling plant water cooling system which features: New Sanitation, New Efficiency, New Economy.

The performance is revolutionary—the application simple and bottlers everywhere are eagerly asking for particulars.

Write for bulletin 11 to keep abreast of the times. The business is waiting and your profits are appealing.



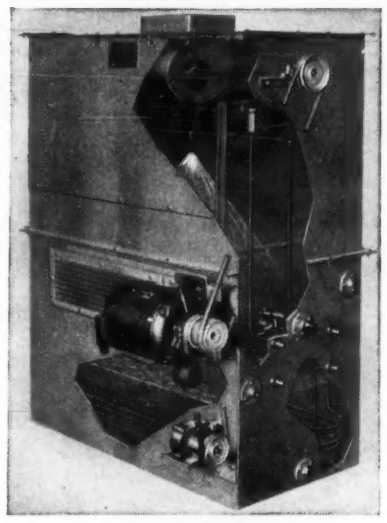
Features:
1. More gallons per dollar invested.
2. Exact Capacity Selection.
3. Small Size—Large Capacity.
4. Accurate Temperature Control.
5. Perfect Sanitation.
6. Close Coupled Installation.

TEMPRITE PRODUCTS CORPORATION
1349 East Milwaukee Ave., Detroit, Michigan
ORIGINATORS OF INSTANTANEOUS LIQUID COOLING DEVICES

The *Original* EVAPORATIVE CONDENSER

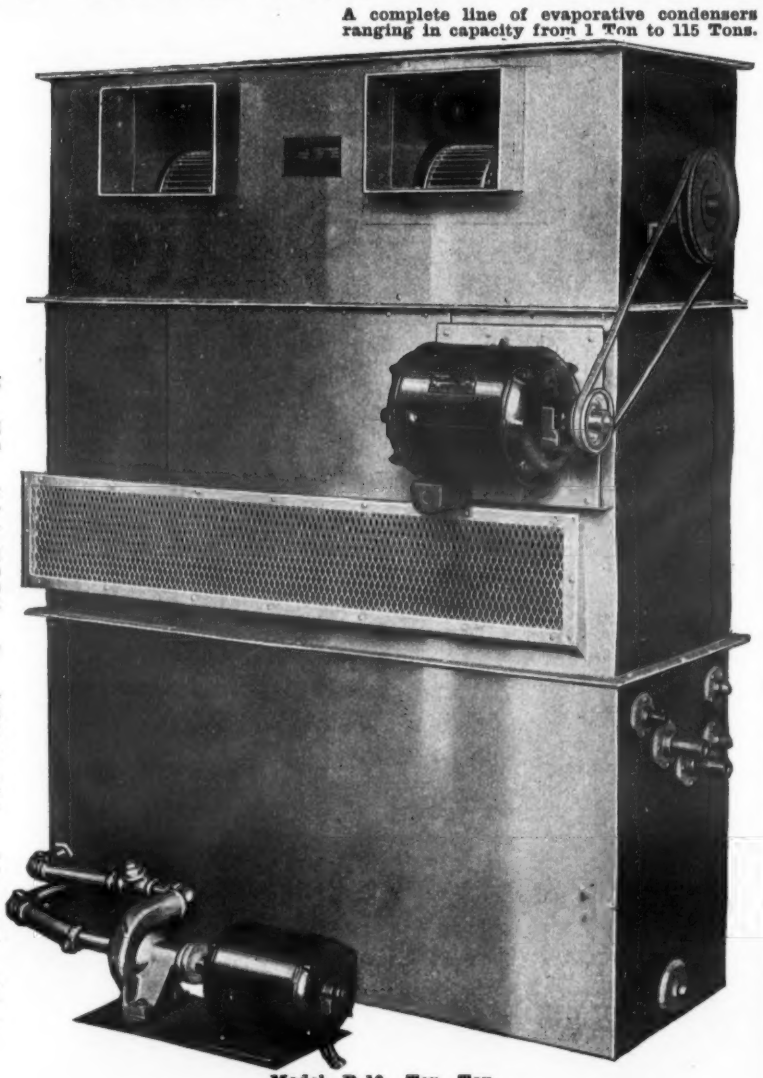
FULLY PATENTED
U. S. Patent No. 1933771
U. S. Patent No. 1969600
U. S. Patent No. 1984605
(Other Patents Pending)

Exclusive Pre-Cooler and Submerged Non-Scaling Condenser Coil Gives 10 OUTSTANDING RESULTS



Model C-2, Two Ton.

A complete line of evaporative condensers ranging in capacity from 1 Ton to 115 Tons.



Model R-10, Ten Ton.

1. Cuts water costs for Air Conditioning and Refrigeration 95% or more.
2. Eliminates costly plumbing, power, and pumping equipment and their high operating and maintenance cost.
3. Pre-Cooler and Submerged Non-Scaling Condenser Coil accumulate NO heat-transfer insulation in the form of scale.
4. Has no long water supply and disposal lines or condenser water tubing to accumulate scale on the interior walls to retard water circulation and heat transfer.
5. Requires no costly increase in water service building connections.
6. Requires no plumbing for condenser water sewage disposal and anticipates the inevitable regulations prohibiting condenser water waste into city sewers.
7. Guarantees maximum condensing efficiency regardless of capacity of city water supply systems already heavily taxed.
8. Anticipates the certain eventual restrictions on burdening of city water supply systems with condenser water.
9. Affords maximum condensing efficiency regardless of high summer water and dry bulb air temperatures.
10. Assures minimum head pressures, reduced power consumption, and maximum refrigeration capacity in I. M. E.

Write for "TECHNICAL DATA"

The MOTOR EQUIPMENT CO.
Wichita, Kan.

STRANG
EVAPORATIVE CONDENSER

TAG SNAPON CONTROLS
For Service Replacement *profits*

The four essentials of any refrigeration controlling device are fully met in TAG's Snapon Control Type R-7 shown here. The construction is the **simplest** of any on the market. The current carrying and movable parts are **rugged** and have the Underwriters' approval up to and including 1½ HP motors, so that the R-7 will frequently outlive the units it serves. Its **accuracy** has been proven in many breakdown tests by the nationally known manufacturers who use it. And, in **appearance** it bespeaks its solid utility and faultless operation. Send for a copy of the new TAG Catalog No. 1136-25.

ASK YOUR JOBBER ABOUT TAG SNAPON CONTROLS AND TEST EQUIPMENT.

C. J. TAGLIABUE MFG. CO.
Park & Nostrand Aves., Brooklyn, N. Y.

Air Conditioning Made Easy — By F. O. Jordan

Graphic Solutions to Problems of Correlating Data on Coils

SECTION NO. 16 (Cont.)

Test Data

The charts shown by the figures which have been discussed are for use with air-conditioning coils through which water is circulated. Similar charts could easily be prepared for direct-expansion air-conditioning coils.

The method of correlating data which will next be discussed is entirely different from the above method. While the charts which have been discussed require a vast amount of computation in their preparation, and while their basis is "mean effective temperature difference," the charts which will now be described are graphic solutions.

Approximately the same number of test runs are necessary for this graphic method as for the method discussed above, but the work and computations involved in its construction are infinitely less, while it involves no assumptions and is much more easily used as a basis for tabulating field data.

The data which are used for constructing the charts by the graphic method, and the test procedures used in obtaining the required data, are similar to those which are used in constructing the charts already discussed.

The procedure is to conduct several series of runs, and to hold all factors constant during each series except one factor which is varied systematically. A sufficient number of series of runs are made to determine the influence of each factor.

In this way points are obtained from which curves are plotted showing the effect of variations in dry-bulb temperature of entering air, and in average refrigerant temperature,

Preliminary Capacity Chart

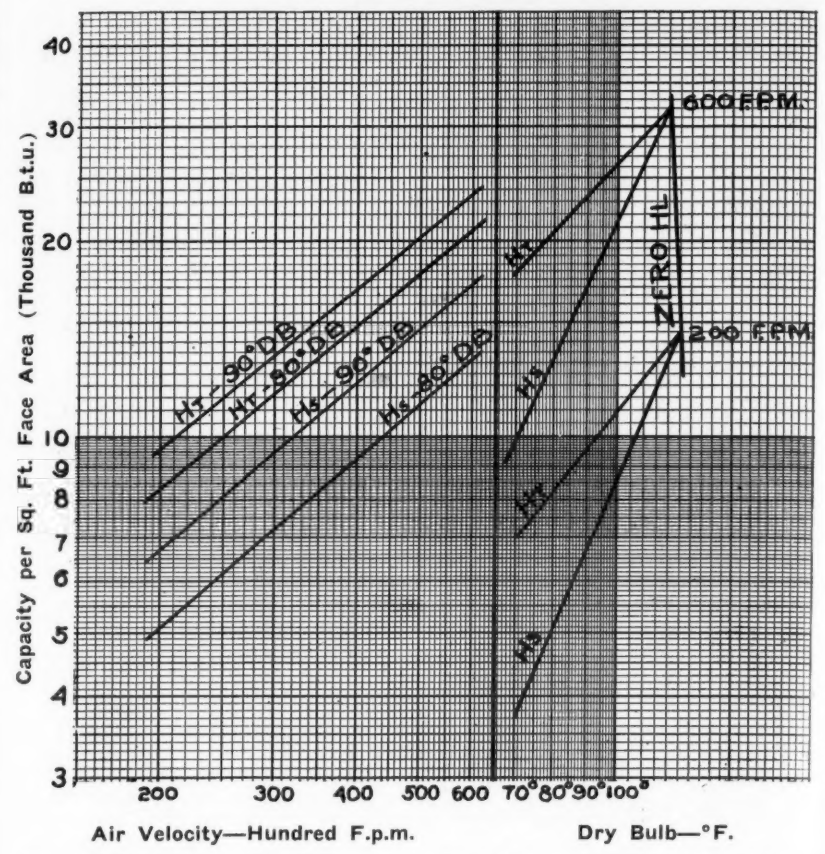


Fig. 89—Figuring preliminary capacity of coil 9 inches deep using Freon with variable dry bulb, 60° dewpoint, and 38° refrigerant temperature.

Sensible Capacity Chart - - 6 Tube Coil

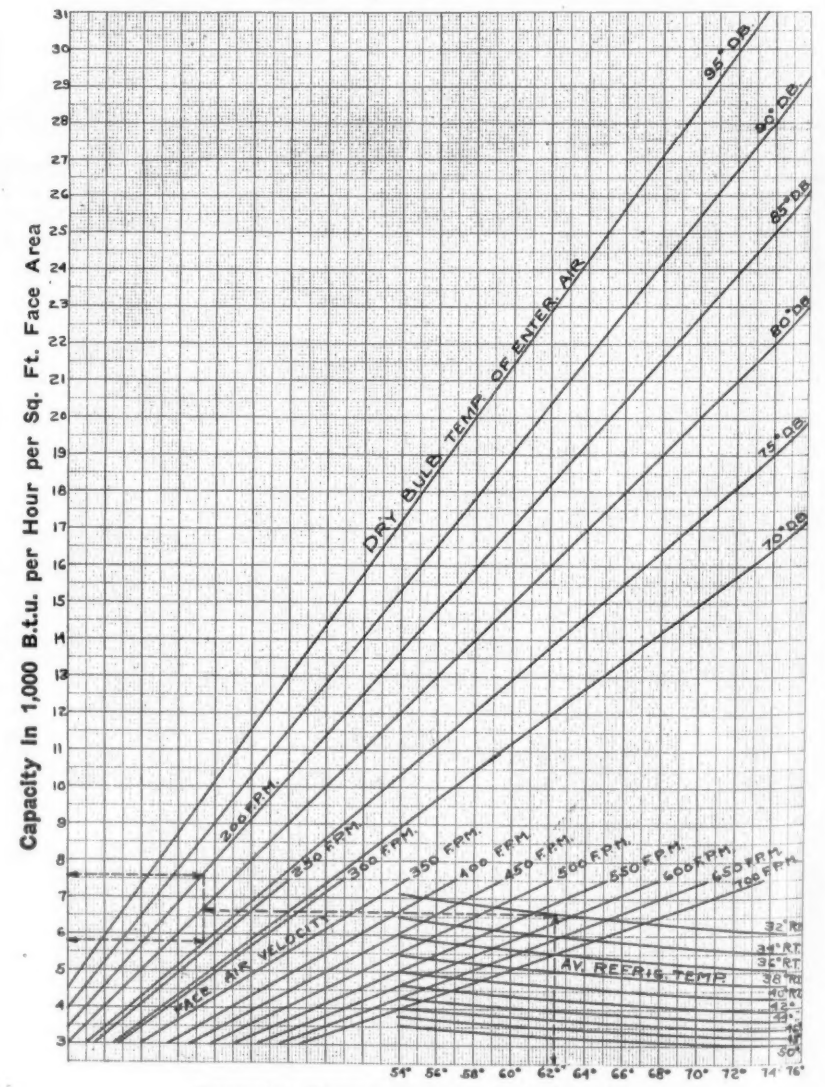


Fig. 90—Sensible capacity of coil 6 tubes (9¾ in.) deep. Coil Construction: Tube size=⅝ in.; tube spacing=1⅝ in.; fin thickness=.008 in.; fin spacing=7 per inch.

Dry bulb temperature of entering air=70 to 95° F. Average face air velocity through coil=200 to 700 f.p.m. Average refrigerant temperature in coil=32 to 50° F.

Directions: Start at lower scale with dewpoint temperature of entering air. Rise vertically to curve of given average refrigerant temperature. Move horizontally to curve of given face air velocity. Move vertically to curve of given dry bulb temperature of entering air. Move horizontally left to sensible capacity per sq. ft. face area of coil. The above routine is reversible, so that any known factor may be used as starting point, and the unknown factor may be determined.

Guide line for determining capacity may be followed in either direction but sequence must be maintained.

and air velocity. Finally these curves are combined into one complete set from which coil performance under any condition may be read easily without computations or assumptions.

The chart shown in Fig. 89 is the first of a series of charts which were plotted from test runs upon a direct-expansion air-conditioning coil. Similar charts may be constructed for air-conditioning coils using water.

Fig. 89 was constructed from a series of test runs in which dewpoint temperature of entering air and refrigerant temperature were held constant, while dry-bulb temperature of entering air was varied. Runs were made at a sufficient number of air velocities so that capacity could be plotted versus air velocity at various dry-bulb temperatures of entering air.

(*Concluded on Page 12, Column 1*)

A 'Joint' Formerly Was a 'Speakeasy'—

but today," says Rudy Larson, Superintendent of the Chicago Factory, "it's something you can't find on a Peerless Fin Coil!" If you'll look where the gentleman is pointing you'll see a Peerless "Non-Soldered Return Bend." And that makes this coil a better coil because "Where There are No Joints There Can Be No Leaks."

We could say more on this subject of return bends but the thing we want you to remember the next time you think of coils is, "Where There are No Joints There Can Be No Leaks."

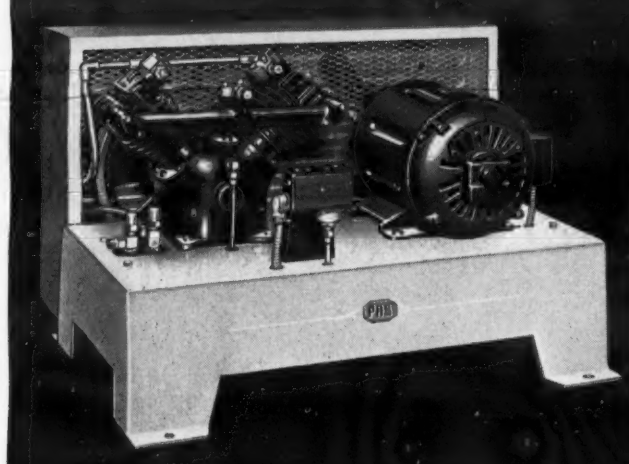
PEERLESS of AMERICA, Inc.

Established in 1912 as the Peerless Ice Machine Co.
Main Factory—General Offices
515 West 35th Street

New York Factory 43-20 34th St. Long Island City
Chicago
Pacific Coast Factory 3000 S. Main St. Los Angeles

BUY PEERLESS FOR PERFORMANCE

PAR AIR COOLED HIGHSIDES



PAR refrigerating equipment has been designed by men with years of experience in the commercial refrigeration industry. All models have been thoroughly tested before approving for production.

Multiple cylinders of large capacity insure very low operating speeds. Sizes ¼ to 1 horse power are two cylinder pumps. Sizes 1½ and 2 horsepower are V type four cylinder pumps.

Par highsides are designed for use with Freon or Methyl Chloride refrigerants. All units are charged with Freon unless otherwise specified.

All air cooled highsides are equipped with oversize condensers, extra large receivers, sight oil gauge, shut-off valve between condenser and receiver, completely wired ready for installation.

Attractively finished, red pressed steel base, motor-compressor—control, black enamel, belt and fan guard silver. Base silver striped as shown in illustration.

MODERN EQUIPMENT CORPORATION
DEFIANCE · OHIO · U-S-A

KASON

FREEZER-DOOR HINGE

This hinge and other items of special refrigerator hardware for cold-storage and freezer doors are featured in Section "C" of the new KASON Catalog No. 38—now ready for distribution.

KASON HARDWARE CORPORATION
127-137 Wallabout St., Brooklyn, N.Y.

CATALOG NO.
K-94

MASS PRODUCTION MAKES THE KOCH ECON-O-CASE POSSIBLE

$10,000.00 could not have bought as good a fixture as an Econ-O-Case a few years ago. Yet today, thanks to modern production methods, Koch has brought the cost of the new Econ-O-Case down to the very lowest price level.

The Econ-O-Case has a welded steel body, insulated with solid CORKBOARD, glazed with three panes of glass. It will display meat, keep meat, and sell meat PROFITABLY.

You need more information about the Koch Econ-O-Case.

WRITE KOCH TODAY FOR DISTRIBUTOR PROPOSITION

KOCH
REFRIGERATORS
North Kansas City, Mo.
Export Dept., 304 E. 45th, N. Y. City

SERVICE METHODS

How to Clean Water Coils in a Shell-and-Tube Condenser

The Problem

Alphonse Rousseau
Electric Refrigeration Expert
Service for Frigidaire
Specialty: Installation, Service, and Inspection
Trois-Rivieres, Province of Quebec
Canada

Editor:

As a subscriber to AIR CONDITIONING AND REFRIGERATION NEWS, which I appreciate reading, I would appreciate it if in some way in your next issue you would publish in the "Service Man's Column" the correct way to clean a water-cooled condenser.

In our locality, let us suppose that we install a water-cooled compressor which, with the water valve wide open, allows a flow of water, let us say, at 100 gallons per hour. Six months later this flow is reduced to 75, a year after the flow is reduced to 50, and four years later the flow is about 5 gallons per hour.

At the city water plant they add to the water some lime or other stuff which causes the water to develop something like rust inside the pipe, which reduces the flow of water. And consequently the compressor works very hot.

I would appreciate very much learning a simple way to clean the water coil of the receiver, without taking out the receiver.

Last year, without doing it on purpose, I cleaned one just like a new one. Here is the way I did it.

The liquid line was stuck, so I pumped the liquid from the water-cooled receiver into another compressor. But by pumping the liquid the water-cooled receiver frosted, also the water coil, and the water flow stopped. So I stopped pumping the liquid refrigerant out for a while.

And when the water started to run, the water came out like mud, and I believe that all of the rust which was inside the water coil came out, as now the water is flowing just like when it was new.

That is one way of cleaning it, but I find it a very dangerous one, as the water coil might bust, and the liquid refrigerant gets mixed up with the water.

There is another way, that is to send some steam in the flow of the water coil. But again that is another dangerous one, as the head pressure might go up so much as to bust the condenser.

So I certainly believe that you must know some simple way which would help me very much in getting these water-cooled condensers in good shape.

I have asked the company I represent, and their answer was to sell some "air-cooled compressor." That is very nice, but that does not help the one in place.

ALPHONSE ROUSSEAU.

A Suggested Solution

Answer: We believe your problem to be:

Condition: A partially clogged copper water coil in a shell-and-tube type water-cooled condenser-receiver.

Effect: This stoppage is restricting the flow of condensing water sufficiently so that even though the water valve is adjusted to the full open position, the amount of condensing water flowing through the water coil is inadequate and high operating head pressures result.

Cause: While water in different localities may contain a variety of impurities which might deposit on the inside walls of the water coil, lime and iron are the two principal materials found in city water that could cause this condition.

Procedure: Disconnect the water supply from the receiver. Leave the drain connected. Connect a vessel, preferably one that is porcelain or granite lined to the water inlet connection. Mount the vessel sufficiently high so that the water will flow from the vessel into the condenser coil.

Make a mixture of 10% muriatic acid and 90% water. Use care in handling the acid and solution.

Pour the acid mixture into the vessel and allow it to flow into the water coil. Allow the acid solution to remain in the partially clogged coil about 10 minutes. The acid should loosen the dirt and scale from the tube.

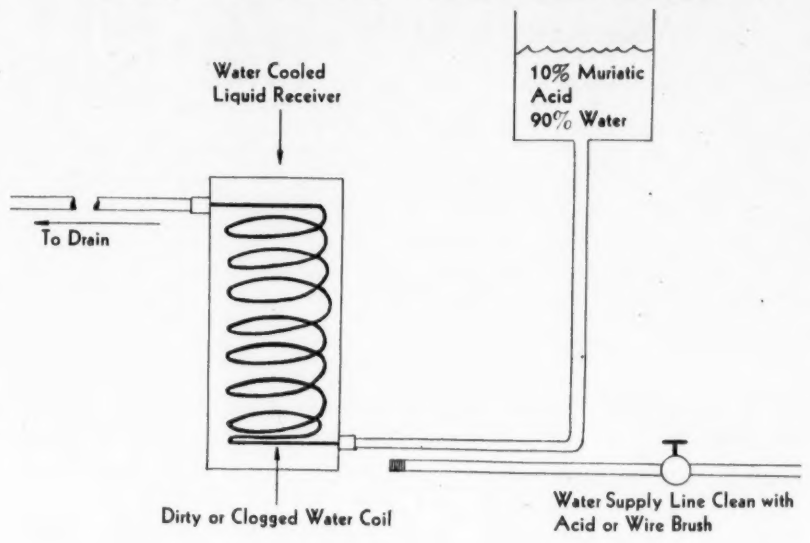
Then immediately connect the city water pressure and flush the coil.

If the first application does not completely clean the coil, repeat the above procedure.

If the coil is completely clogged the acid solution will have to be forced into the coil under pressure. A complete stoppage is remote and does not exist in this case as we understand it.

Attention is also called to the fact that the water supply lines, water regulating valve, drain lines, etc., may also be partially clogged, they should be cleaned to complete the job.

Hookup for Cleaning Water Coils with Acid



How Servicemen Can Get Answers to Problems

A number of letters like the one from Mr. Rousseau published on this page are received from service engineers, and the REFRIGERATION NEWS has attempted, where possible, to supply an answer, publishing the letter and the answer as a matter of information for service men.

With K. M. Newcum, author of the Master Household Refrigeration Service Manuals, now a full-time staff member of REFRIGERATION NEWS, it will be possible to make this service more valuable to readers under a plan which will operate something as follows:

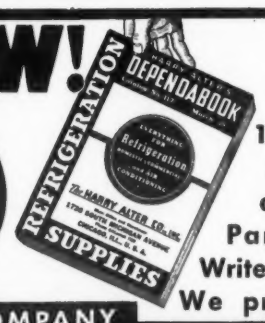
1. When a request for certain service information is received by Mr. Newcum, he will determine if there is sufficient information in the original letter-request to enable him to make an intelligent diagnosis. If he considers the problem possible of solution, but desires more information before attempting an answer, he may write the inquirer requesting additional data.

However, he will not attempt to answer questions pertaining to service that are vague, incomplete, and hastily written.

2. Where possible, an answer will be given in as clear and understandable a manner as possible, with the understanding that when the information Mr. Newcum has prepared has been put into practice, the service engineer will write to Mr. Newcum and tell him of the results obtained.

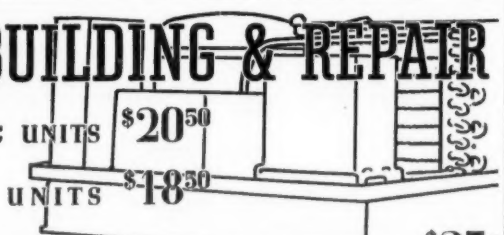
In this way a complete "case history" of various service problems will be obtained, and the very practical information obtained by such methods will be published in full in REFRIGERATION NEWS.

THE BUYER'S GUIDE

It's NEW! SEND FOR IT NOW!


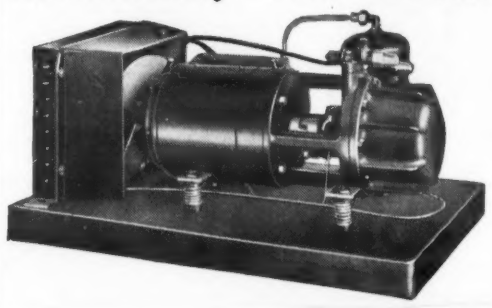
HARRY ALTER'S 1937 catalog of Air Conditioning and Refrigeration Parts and Supplies. Write on your letterhead. We protect the dealer.
HARRY ALTER COMPANY
1728 S. Michigan Ave., Chicago
BRANCHES
NEW YORK·ST. LOUIS·CLEVELAND

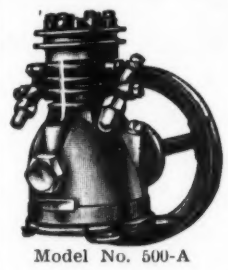
The Only MAJESTIC Refrigerator and Radio Parts and Service
Service Anywhere in the World
Original and Genuine
Direct Factory Service
Dealers Wanted Everywhere
BEWARE OF IMITATION REPLACEMENT PARTS AND UNITS.
For Every Model Prior to 1936
OUR REBUILT UNITS ARE GUARANTEED 18 MONTHS
G & G GENUINE MAJESTIC REFRIGERATOR AND RADIO PARTS SERVICE
FACTORY & GENERAL OFFICES: 5801 DICKENS AVE. . . . CHICAGO, ILL.

EXPERT REBUILDING & REPAIR

Majestic HERMETIC UNITS $20.50
Servel HERMETIC UNITS $18.50
General Electric MONITOR TOP UNITS ★ ABL HOUSEHOLD $25.
REFRIGERATION MAINTENANCE CORP
OFFICES AND FACTORY 365 EAST ILLINOIS STREET
CHICAGO ★ ILLINOIS
F. O. B. Our Factory, 1 YEAR Unconditional Guarantee
ALL units completely rebuilt and tested for temperature, cycling, wattage consumption and quietness. Satisfaction guaranteed.

— NEW —
Send for your copy of the New HASCO catalog
Illustrated Complete
Attractive Prices
HASCO, INC.
Greensboro North Carolina

WESTERN UNION
TO ALL REFRIGERATION SERVICE MEN
BORG WARNER SERVICE PARTS COMPANY HAS BEEN APPOINTED EXCLUSIVE DISTRIBUTOR FOR GENUINE KELVINATOR PARTS AND ACCESSORIES IN THE CHICAGO AREA STOP SEND FOR COMPLETE CATALOG HOT OFF PRESS
Borg Warner Service Parts Co. is now the Midwest's only source of supply for parts and accessories serving the entire automatic heating, refrigeration and air conditioning industries.
"Products of Experience"
BORG WARNER SERVICE PARTS CO.
BORG WARNER SERVICE PARTS COMPANY
2100 INDIANA AVE . . . . . CHICAGO, ILL.

Revolutionary New Oscillating Compressor!

A life-saver for manufacturers not making their own units! Here's the opportunity for Service Companies to save their customers money and give them a new up-to-minute unit at a lower cost than repairing the old one!
Write for Prices and Details!
O'Keefe & Merritt Co.
3700 E. Olympic Blvd.
Los Angeles, Calif.


Model No. 500-A
"CHIEFTAIN"
QUALITY-BUILT COMPRESSORS and CONDENSING UNITS
All bearings diamond bored. Positive lubrication of parts by newly developed process plus forced feed lubrication in all models.
Sizes 1/6, 1/5, 1/4, 1/3 h.p.
Write for prices
TECUMSEH PRODUCTS CO.
Tecumseh, Mich.
OFFICES
New York 480 Lexington Ave.
Chicago Room 2258 La Salle-Wacker Building
Detroit Export Department 1002 Palms Bldg.
Los Angeles 122 Mariposa St.
St. Louis 577 Arcade Bldg.

Cash in on some extra water cooler profits this season!
Sell Cordley Electric Coolers
WATER coolers will be sold in increasing volume this spring and summer. Business men are buying new equipment, modernizing plants and offices. Cash in on this profitable business with Cordley Electric Water Coolers . . . made by an organization that has specialized in water coolers since 1889...small, compact, inexpensive, good looking units...a complete line . . . an easy way to get added sales and extra profits. Write for details.
CORDLEY & HAYES
141 Hudson Street • New York City

PURO
ELECTRIC WATER COOLERS
Thoroughly reinforced all steel attractively finished cabinets.
Complete line of different Models and Capacities.
Write for details and sales prices.
Puro Filter Corporation of America
440 Lafayette Street, New York City Spring 7-1800

PARTS SUPPLIES TOOLS
Refrigeration & Air Conditioning
COMPLETE STOCK QUICK SERVICE
NEW 1937 CATALOG JUST OFF THE PRESS!
Send for BIG FREE CATALOG
— Write Today for Your Copy —
AIRO SUPPLY CO. 2732 N. Ashland Ave., CHICAGO 17 West 60th Street, NEW YORK

Data Required in Testing Complete Air Conditioning Unit; Heating Coil Data

(*Concluded from Page 10, Column 5*)

Values which were read from these curves were then cross-plotted with capacity versus entering dry-bulb temperature, so that performance at any dry-bulb temperature may be read off.

Two other charts (samples of which will be included in Air Conditioning Made Easy when published in book form) may be constructed similarly with dewpoint temperature of entering air and average refrigerant temperature, respectively, as the variable factors. From these curves, performance may be read at any desired dry-bulb or refrigerant temperature, and at any average refrigerant temperature or air velocity. From these curves values may be taken for plotting the curves shown by Figs. 90 and 91.

From Fig. 91, the total capacity and the latent-to-total capacity ratio may easily be read at any condition, without "cut-and-try" methods and without making assumptions.

Since both total capacity and latent-to-total ratios are given, the latent capacity may be determined by multiplying the total capacity by the latent ratio, while the sensible capacity may be determined by deducting the latent from the total capacity.

After the total load, the latent-to-total load ratio, and dewpoint and dry-bulb air temperatures entering the coil for a given project have been determined, a very exact selection of the proper coil can be made easily from these charts by the following method:

Start at the dewpoint temperature of entering air for the project, at the bottom of the "total" capacity sheet and rise vertically to the curve for the latent-total ratio as computed for the project. Read off the required average refrigerant temperature necessary to develop this ratio at the given dewpoint temperature of entering air.

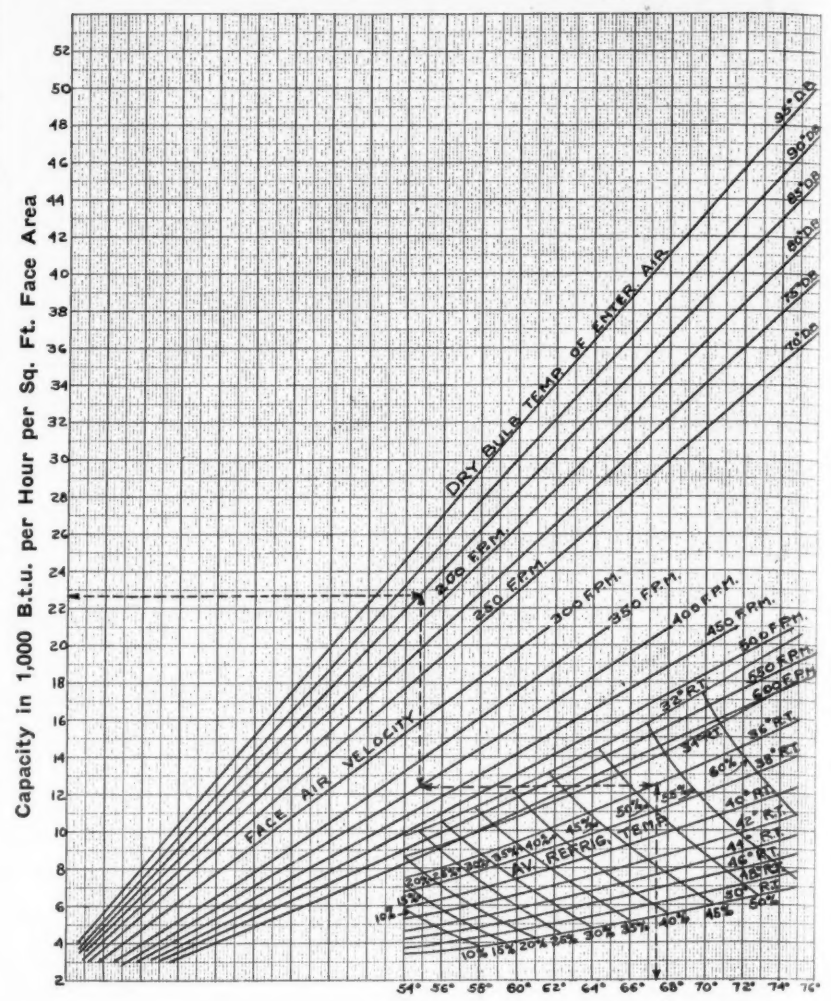
Pass horizontally to the curve for 500 f.p.m. (or other desired air velocity) face air velocity, rise vertically to the curve for the given dry-bulb temperature of entering air, and read the total capacity per square foot of face area for the coil.

Divide the total capacity of the coil per square foot face area into the total load of the project as computed, to determine the required square foot of coil face area. If this face area practically coincides with the face area of an available model, select that model. Otherwise, select the next larger model, and divide the total load of the project by the actual square foot face area of the model selected to ascertain the actual total capacity which must be developed per square foot of face area of the model selected.

Start with the actual required total capacity per square foot of face area of the model selected at the left of the total sheet, pass horizontally to the curve for the entering dry-bulb temperature and draw a vertical line through this point.

Next, start with entering dewpoint air temperature at bottom of sheet, rise to curve for latent-to-total ratio of project, and pass horizontally to vertical line drawn as directed above. The intersection with that vertical line indicates *exact* air velocity necessary to develop total capacity with the average refrigerant temperature necessary to develop required latent-to-total ratio. Variation of this routine may be used if desired.

Total Capacity Chart - - 6 Tube Coil



Dewpoint Temperature of Entering Air

Fig. 91—Total capacity of coil 6 tubes (9¾ in.) deep.

Coil Construction: Tube size=⅝ in.; tube spacing=1⅝ in.; fin thickness=.008 in.; fin spacing=7 per inch.

Note: The latent-to-total ratio curves are based on 80° dry bulb and 600 f.p.m. velocity only. For other velocities and dry bulb temperatures they may be used to obtain approximate ratios by remembering the following: Add 1% for each 100 f.p.m. decrease in velocity; deduct 1% for each 1° increase in dry bulb. When conditions vary considerably from 80° dry bulb and 600 f.p.m. velocity, use ratio curves as guides only.

Dry bulb temperature of entering air=70 to 95° F. Average face air velocity through coil=200 to 700 f.p.m. Average refrigerant temperature in coil=32 to 50° F.

Directions: Start at lower scale with dewpoint temperature of entering air. Rise vertically to curve of given latent-to-total ratio, and read required average refrigerant temperature. Move horizontally to curve of given face air velocity. Rise vertically to curve of given dry bulb temperature of entering air. Move horizontally left to read total capacity per sq. ft. face area. The above routine is reversible. Any known factor may be used as starting point, and the unknown factor may be determined.

Problem

Assume the following conditions:

Entering air at 80° dry bulb and 60° dewpoint.

Face air velocity at 500 f.p.m.

Average refrigerant temperature at 40°

Read the following:

Total capacity.

Latent-to-total ratio.

Sensible capacity.

Answers as read —

* * *

	6 In. Deep Coil	9 In. Deep Coil	12 In. Deep Coil
Total capacity	11,700 B.t.u.	15,400 B.t.u.	20,600 B.t.u.
Latent to total ratio	29%	33%	38%
Sensible capacity	8,300 B.t.u.	10,300 B.t.u.	12,800 B.t.u.

* * *

Test of Complete Unit

Having obtained complete performance data for the various elements which go to make up the complete air-conditioning unit, an economical and efficient unit may be designed. Upon this complete unit, the following data should be obtained:

1. Fan speeds, damper settings, etc., necessary to develop the airflows required to obtain the desired capacities. This data must be obtained at various external static pressures due to ductwork if ducts are used.

2. Refrigerant and water pressure drops through entire unit at various ratings.

3. Air pressure drops through entire unit at various ratings and conditions.

4. Noise level at various ratings.

5. Power consumption at various ratings and conditions.

6. Inlet and discharge air velocities.

7. Vibration characteristics.

8. Physical characteristics necessary for formulating complete specification.

9. Net weight.

10. Shipping weight.

11. Principal dimensions.

12. Complete capacity tables. These tables may easily be compiled from correlated coil performance charts described above, without the necessity of additional tests other than a few check runs.

13. Refrigerant and circulation, or water distribution and circulation.

Heating Coil Data

In the case of models which are to be provided with a heating coil, data must also be obtained upon heating coil performance.

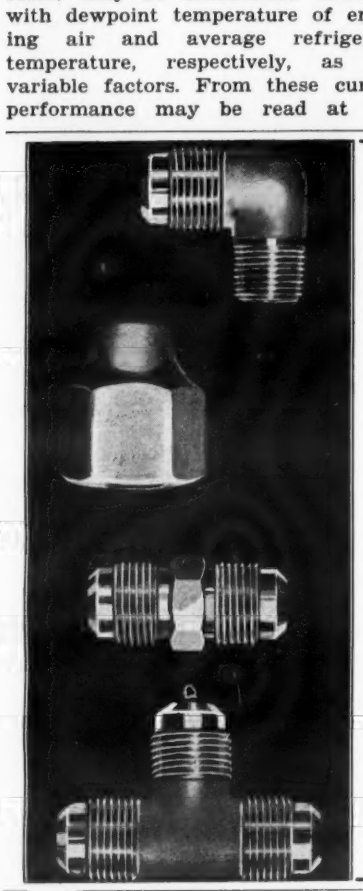
Test arrangements and methods are similar to those outlined above for the cooling and dehumidifying coil, remembering that sensible heat only is involved. Runs should be made at various air velocities and entering temperatures, at various steam pressures and hot water temperatures, and at various rates of hot water flow.

Capacities may be computed as follows:

1. Multiply the pounds of air per hour at given barometric pressure by the differential between the sensible heat per pound of air entering and leaving the coil.

2. In case of the steam heating coil, measure the condensate discharged from the coil and multiply pounds per hour of condensate by the differential between the total heat per pound of steam at the steam pressure within the coil, and the heat in the condensate at the temperature *at which it leaves the coil.*

3. In the case of the hot water heating coil, multiply the pounds of hot water circulated per hour through the coil by the temperature drop of the water.



Seepage-Proof
FITTINGS
"Built Right to Stay Tight"

Every style and size of forged flared tube fitting for the refrigeration industry is available from standard stock at Commonwealth.

Thousands of semi-standard patterns enable us to quickly furnish any desired variation in pipe and tube ends.

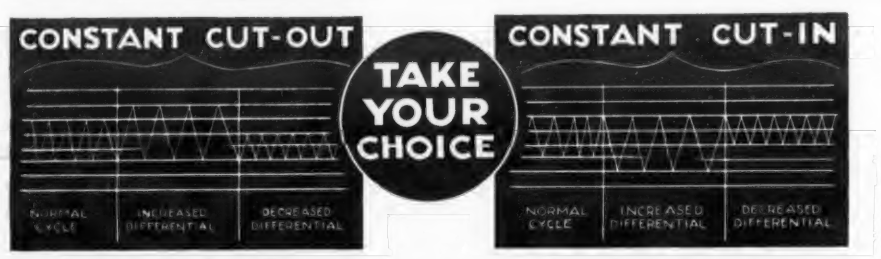
Special fittings made to order.

Commonwealth fittings are correctly designed, carefully machined, and tube seats are protected in shipping.

25 years of service to the industry.

COMMONWEALTH BRASS CORPORATION
Commonwealth at Grand Trunk R. R
DETROIT, MICH.

ALCO Known wherever refrigerants are controlled

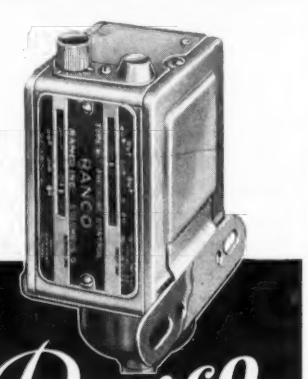


STRENGTH, capacity, dependability—and adapted to the exact needs of scores of commercial installations! That's Ranco Type RL—Temperature and Pressure Control.

Your choice of constant cut-out or constant cut-in. The former affords the protection needed in ice cream cabinets, for example—the latter is the safety-precaution against freezing in water coolers.

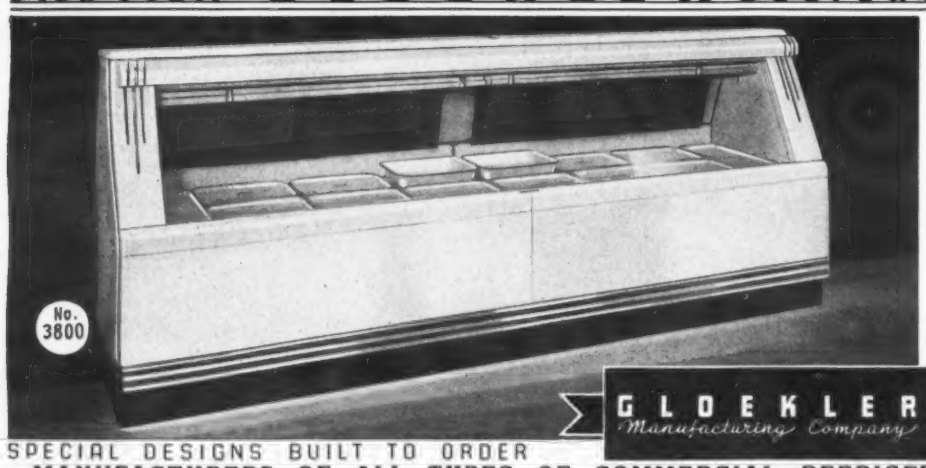
Sturdily built—for heavy-duty service. One control—for all commercial gases. Get all the facts! Write for bulletin.

RANCO, Inc., Columbus, Ohio



Ranco TYPE RL COMMERCIAL CONTROLS

The New GLOEKLER Streamline DELICATESSEN CASE



FIRST IMPRESSIONS COUNT---and your merchandise displayed in this new full-vision streamlined case will not only make an impression, but will actually make sales.

Available in Single or Double Duty style, in four sizes; with your choice of durable DuLux finish or gleaming white Porcelain.

Triple-thick glass-removable porcelain shelf-diffusion type coils-copper tubing and fins.

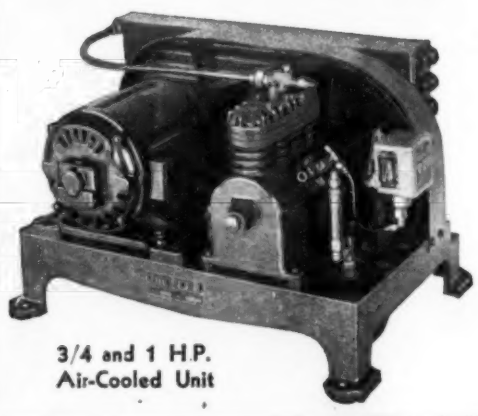
Economical operation-durable construction-attractive appearance.

WRITE FOR COPY OF FOLDER 3800 WITH COMPLETE DESCRIPTION

GLOEKLER Manufacturing Company ERIE, PENNSYLVANIA SALES OFFICE: 429 FOURTH AVE., PITTSBURGH, PA.

SPECIAL DESIGNS BUILT TO ORDER
MANUFACTURERS OF ALL TYPES OF COMMERCIAL REFRIGERATORS AND CASES

DICELER 4 CYLINDER UNITS



3/4 and 1 H.P. Air-Cooled Unit

Modern Compressor Units for Modern Refrigeration and Air-Conditioning applications are found in Diceler Four Cylinder Units. A compressor for every refrigeration need may be selected from the complete line of models from ¼ hp. to 30 hp.

A study of DICELER features outlining the exacting methods of construction and the high grade material used, will explain why DICELER has found favor in the eyes of experienced engineers. Write for catalogue.

DEISSLER MACHINE COMPANY
Greenville, Pa.
Over a sixth of a century in electric refrigeration

How to Select and Install Air Conditioning Systems

By T. H. Mabley

CASE NO. 21
Indirect System For an Office

There are two general types of air-conditioning systems using the conventional type of refrigeration compressor. These are commonly known as "Direct" and "Indirect" cooling systems. Chief distinction between the two systems is the method of handling the refrigerant.

In the direct system the refrigerant is carried in the liquid line directly to the conditioning unit and performs the cooling operation in an evaporator which is in direct contact with the air taken from the conditioned space.

The refrigerant, in the form of gas at a lower pressure, is returned to the compressor from the evaporator through the suction line. Thus there is direct expansion of the refrigerant in the cooling coils which are in contact with the air.

In the case of the indirect cooling system an intermediate cooling medium is introduced into the cycle. This additional element is usually water, brine, or some other fluid having the necessary physical properties such as Prestone.

In certain special cases two materials commonly used as direct expansion refrigerants are combined in an indirect system.

With the indirect system the refrigerant from the compressor is led into a fluid cooler which serves as an evaporator. The auxiliary fluid, usually water, is circulated through a separate circuit in this evaporator and thus is cooled by supplying the heat for evaporation to the refrigerant.

The cooled fluid is then circulated to the conditioner and used to cool air either by fin-type water coils or washer sprays. In this manner the refrigerant gas is not brought to the conditioning unit.

INDIRECT ADVANTAGES

This arrangement has many advantages which help to offset the differential in cost between the two systems.

First of all, in the indirect system, water or some other harmless liquid may be used for the intermediary cooling medium. This feature is important when the refrigerant to be employed is toxic or inflammable.

In addition to the safety feature, the danger of unnecessary losses of expensive refrigerants is reduced in the indirect system, by reducing the length of refrigerant piping necessary.

In such a case the liquid cooler would be located close to the compressor to permit the use of short refrigerant lines. The cooling liquid would be circulated through a low pressure pipe system.

Easy control is often another factor favorable to the adoption of the indirect system, as the flow of water or cooling fluid to any one conditioner may be readily modulated to suit requirement. For year-around air-conditioning systems the same fluid circulating system may be used to supply heat. This requires just the addition of a heater to add heat to the circulated liquid before it is supplied to the units.

An example of such an installation is illustrated in Fig. 1.

INSTALLATION EXAMPLE

Here is a suite of offices on an intermediate floor of an office building. For various reasons it is absolutely necessary to keep the compressor in the basement of the building.

If the direct expansion system were going to be used, it would be necessary to pipe the refrigerant up to units on the upper floor. This would mean excessively high head pressures on the system and considerable sub-cooling of the liquid refrigerant to prevent vaporizing at the lower liquid pressures at the top of the liquid line just ahead of the expansion valves. Therefore, the indirect system using water as the circulation medium should be selected.

Proper conditioning units will have to be chosen to give the required air-conditioning performance. It is desired to provide temperature control for both summer and winter together with the benefits of humidification, circulation, and filtration.

It has been concluded that due to the particular arrangement of the building no attempt will be made to provide mechanical ventilation with the system. The units therefore will be designed for 100% recirculation.

For each of the small offices a standard floor type unit may be selected to replace the present cast-iron free standing radiator. These units will be equipped with blower, filter, spray-type humidifier, and copper finned water coil. The coil will serve the purpose of temperature control for both summer and winter conditions.

A modulating water valve will be installed on the water inlet to this coil. This valve will be controlled by the room thermostat. The opera-

(Concluded on Page 15, Column 3)

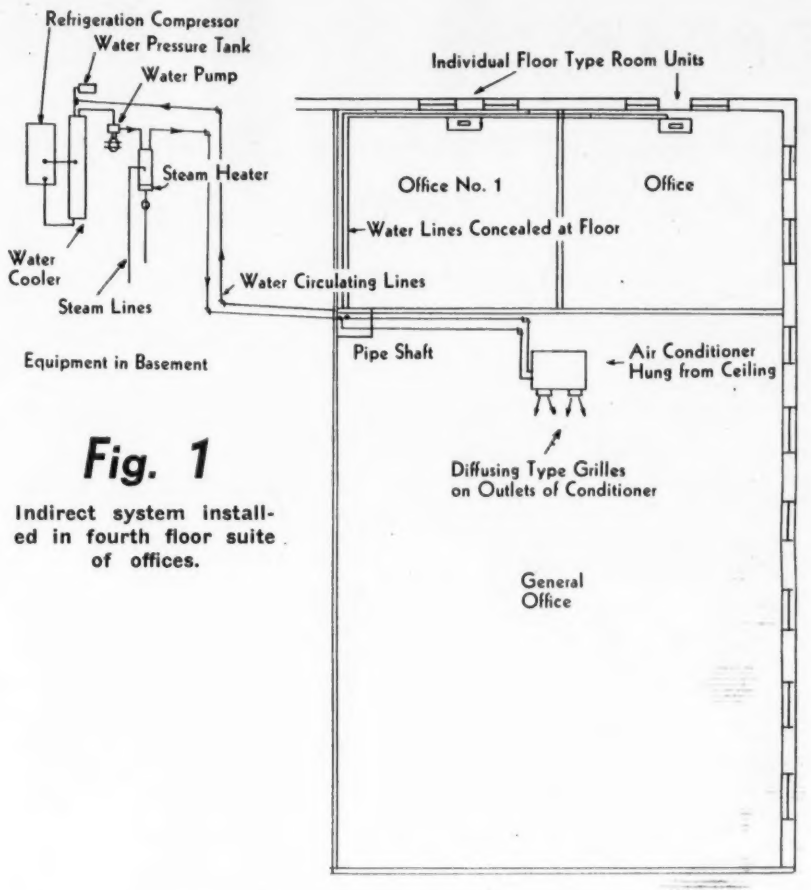


Fig. 1

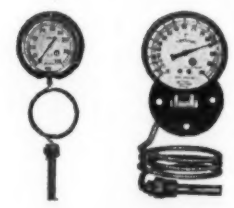
Indirect system installed in fourth floor suite of offices.

THE BUYER'S GUIDE

REFRIGERATION ACME PRODUCTS AIR CONDITIONING
"It's better to use ACME PRODUCTS than to try to compete against them."
ACME INDUSTRIES, INC.
JACKSON MICHIGAN

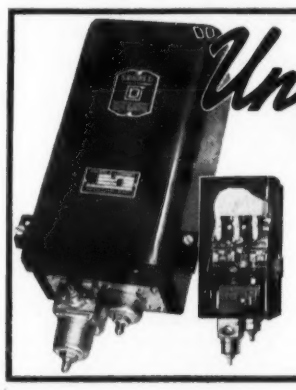
TYPE WR
Electrimatic
WATER REGULATORS
Write for our catalog describing refrigeration and air conditioning controls available in sizes and types to suit your requirements.
THE ELECTRIMATIC CORPORATION
2100 INDIANA AVE., CHICAGO, ILL.

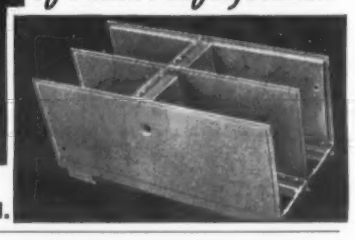
HIGHEST Filtrine EFFICIENCY
FILTERS & COOLERS
SHELL & TUBE—WATER COOLERS
CONDENSERS
AIR CONDITIONING—INDUSTRIAL
FILTRINE MFG. CO., Brooklyn, N. Y.

HOW HOT IS HOT?
ANY day, now, Old Sol will be doing his stuff, and refrigeration equipment will begin to puff and pant as outside temperature skyrockets.
It is on such days as these that Marsh dial thermometers prove their worth. They are not only accurate throughout their entire range; they STAY accurate. If they are banged out of adjustment the Marsh "Recalibrator" permits positive recalibration without removing the mechanism from the case.
With Marsh dial thermometers you can answer the question "how hot is hot" or "how cold is cold" right down to the fraction of a degree, whether it is —20 or +800 degrees.

Marsh dial thermometers for refrigeration service are built in several sizes and temperature ranges. Self contained and distant reading types.
JAS. P. MARSH CORPORATION
2067 Southport Avenue, Chicago, Ill.
WRITE FOR COMPLETE INFORMATION
MARSH Refrigeration Instruments

THE BUYER'S GUIDE

WRITE TODAY FOR OUR NEW 1937 AIR CONDITIONING COIL CATALOG
"SLICK" MOTION!
INSURES RAPID HEAT TRANSFER
You'll marvel at the "slick" motion of the refrigerant in Manufacturers Fin Coils equipped with THERMO FIN In Tube—the patented improvement. It swirls up one wall and down the other like a bobsled on an Olympic course increasing the effective surface of the fin coil. It really is a "slick" idea, you'll readily agree.
MANUFACTURERS FIN COIL CO.
2505-7 SO. PULASKI ROAD CHICAGO, ILL.


Unified Control" means "COMPLETE CONTROL" for Commercial Refriaeration
SQUARE D EVERYWHERE
SQUARE D COMPANY

KOLD-HOLD
ICE CREAM CABINET CONVERSION UNITS
Modernize old equipment . . provide much greater storage space for packaged goods . . eliminate brine leaks and attendant odors . . reduce weight and simplify installation . . require a minimum of service . . provide ideal temperatures under all conditions . . cost less to operate . . quickly and easily installed in any standard cabinet at small cost.
As Outstandingly Superior as the KOLD-HOLD System of Truck Refrigeration

Write for Complete Facts
KOLD-HOLD MFG. CO. - LANSING, MICH.

U.S. REFRIGERATION GAUGES
ARE HIGHLY SENSITIVE TO CHANGES IN PRESSURE!
PERMANENTLY ACCURATE

U.S. BUILDS BETTER GAUGES
U.S. GAUGE CO.
44 BEAVER ST., NEW YORK, N.Y.

DEPARTMENT STORES STUDY PROBLEMS OF PERSONNEL

Planned Judgment Rather Than Impulse Should Rule Handling of Employe Problems, Elsom Declares

CHICAGO—Discussions at last week's mid-year meeting of National Retail Dry Goods Association indicate that prevention of labor unrest in their establishments is a major concern of department store executives.

With "employe relations" their principal theme, both general and sectional sessions of the convention discussed such matters as the proper handling of people, what to do about the "straw boss" type of department manager, employer-employe relations in the smaller store, dismissal wages, and the general aspects of the changing labor situation as it affects retailers.

Skill in handling people is an acquired, not a natural gift, and personnel managers must devote a major part of their thinking to the "human" side of their job, meeting supervisory problems by planned judgment rather than by impulse, B. W. Elsom, superintendent of personnel and service of the Boston Store, Milwaukee, declared.

He listed the following 25 points as important one to follow in handling people:

1. The most dangerous policy in handling subordinates is to ignore them. The employe whose work is not noticed inevitably comes to feel that his task is unimportant. Wise executives, no matter how busy they are, find time to show an interest in the worker on even the most minor jobs. Develop this habit; it will not only stimulate your employe morale, but may also lead to the discovery of hidden talent.

2. Don't be afraid to give praise. People need a word of encouragement now and then just as much as they need food. There are many more workers suffering from an inferiority complex than from a superiority complex. Praise is the medicine for an inferiority complex.

3. Praise the work, not the worker. The management is interested primarily in production. Word your praise as coming from the management rather than from you as an individual.

4. Praise is usually more effective if given in the presence of others. This is genuine proof of sincerity. Insincere or too abundant praise soon loses its force and effectivness.

5. An indirect method of praise is to ask the worker for his opinion as to the methods or progress of a job. This gives the worker a sense of importance—helps to sustain his ego, and, believe it or not, his opinions or suggestions may teach you something.

6. To make a suggestion system really work, you must be willing to listen to many lengthy suggestions which are impractical or impossible, and ready to spend time in giving the employe a satisfactory explanation of why the suggestion is impractical. If you don't take time to do this, you will crush out any desire on the part of the employe to try again. And on the next try he might have offered a suggestion worth a thousand dollars to your firm.

WORKERS' COMPLAINTS

7. Workers will come to you with various complaints which may seem small to you—they are important to the worker who has gotten up his nerve to come to you. Listen attentively to the entire story. Don't cut his recital short with statement that "you know all about it," or "you will take care of it later." To do so will only make the worker feel that you are unsympathetic and unjust.

8. Be sure the thing you are going to criticize is worth the time and effort that it takes to give the criticism. If it isn't, then skip it.

9. Do not hesitate to reprimand workers for fear it will make you disliked. Disciplining your workers does not detract from the respect with which you are regarded. The boss who is an easy mark is not highly respected, nor does he get maximum production. Nothing is more unfair to your subordinates, particularly if they are young people, than to allow them to persist in a serious fault without attempting to correct it.

10. Do not store up resentment over repeated infractions until you "boil over" and then rebuke sharply and in anger. The correction of each offense as it occurs will prevent explosions due to pent-up emotions.

DISCIPLINE TECHNIQUE

11. Be sure that the reprimand is deserved. Hold your criticism in check long enough to find out the facts in the case. If a worker makes a mistake through ignorance the case usually calls for training, not blame.

12. Adapt the severity of the reprimand to the individual. A sensitive high-strung person may be quite broken up by a scolding which would have little effect on one with a thicker skin or duller mind.

13. In criticizing a worker's performance, compare his work to a standard and not to the performance of a fellow employe.

14. Criticize methods, not intentions. If you assail a worker's intentions, you hurt his self-esteem; on the other hand, most workers are willing to accept reasonable criticism of their methods. Make the worker feel that the reprimand is impersonal. Emphasize the point that your criticism is an attempt to improve the standards of work.

15. Do not reprimand a worker in the presence of others except in special cases. A public reprimand may humiliate and embarrass an employe unnecessarily, while a private talk will offer a much better opportunity to get your point across.

16. After the reprimand has been given—forget it. As soon as the worker admits that he deserved the blame then you have gained your point.

PUBLICIZE RULES

17. Give the rules constant publicity. See that the regulations and requirements of your department are thoroughly understood by all your workers. Discipline should carry with it the element of certainty. After you have assigned a job check up and see that it is being done.

18. Discipline should be consistent. Workers do not object to strict discipline nearly as much as to vacillating discipline. Try not to let the severity of your discipline increase when you are fatigued or worried.

19. Justice is a most important factor in good discipline. No supervisor can maintain the confidence of his people unless he has the reputation for playing fair. Strive to administer discipline so that no one can charge that you are partial to some workers.

EXECUTIVES MUST TEACH

20. Anyone in an executive capacity must be, first of all, a teacher. In teaching a new task to a worker, first explain the operation—then demonstrate it. After you have done this, ask the worker to demonstrate the operation to you until he has absorbed all the details. Try to be definite and explicit so that your words cannot be misunderstood. If there is some chance for misunderstanding, give the worker an opportunity to ask you questions on points which are not clear to him.

21. In an organization, enthusiasm does not bubble up from the bottom—it seeps down from the top. The poorest worker works only with his hands—the better worker works with his hands and his head. True leadership is the ability to inspire workers to work with their hands, their heads, **and their hearts.** The enthusiasm which causes people to do their work from the heart is rarely spontaneous; it must usually be generated by an enthusiastic leader.

HUMOR NEEDED

22. A sense of humor is an exceedingly valuable addition to the executive tool kit. However, jokes that ridicule or have a basis of sarcasm are extremely dangerous. To a subordinate, a spiteful jest or a note of sarcasm is particularly galling. One of the bitterest comments that an employe can make about his supervisor is that he is sarcastic.

23. A friendly reception of the new employe is tremendously important. Check on your sponsor system. Make sure that it has not lapsed into a mechanical and impersonal procedure.

24. Check up on your existing rules dealing with employe privileges.

(Concluded on Page 15, Column 3)

THE BUYER'S GUIDE

SALES AGENTS & DISTRIBUTORS WANTED

—SHERER— —SHERER—

We manufacture a complete line of
DISPLAY AND STORAGE EQUIPMENT FOR RETAIL FOOD STORES
Refrigerator Cases of all kinds, Market Coolers, Reach-in Boxes, Meat Racks, Porcelain Partitions, etc.
Use the complete Sherer line to maintain your volume and profits as the demand for household boxes tapers off. Write us today.

Desirable territories now open. Write us for details.

SHERER-GILLETT COMPANY
MARSHALL, MICHIGAN
ESTABLISHED 1856

SINCE 1899
The quickest selling case on the market—made possible by its many exclusive features and a complete line. To obtain a large and profitable commercial volume
WRITE FOR DETAILS

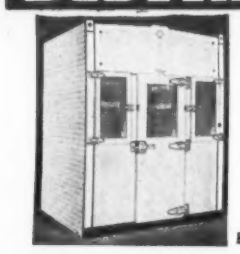
LEADING WITH QUALITY

FOGEL REFRIGERATOR CO., PHILA., PA.

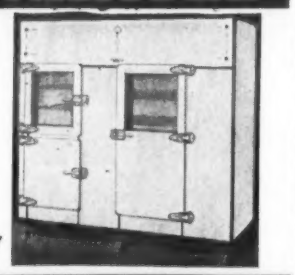
TYLER'S WELDED STEEL REACH-IN BOX

SALES SENSATION OF 1937
Big waiting market for food stores, restaurants, bakeries, tap rooms. New principle "Stratosphere" coiling. Maximum efficiency and capacity in small floor space. Dealers report tremendous demand. Big sales opportunity. Write today.
43 CUBIC FT. NET CAPACITY
TYLER Sales-Fixture COMPANY
DEPT. EX. NILES, MICHIGAN

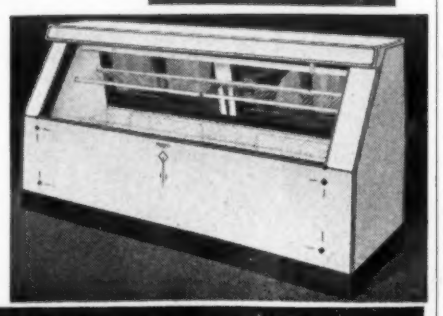
DISTRIBUTORS WANTED



Percival equipment meets every requirement of the modern food store.
For mechanical refrigeration only



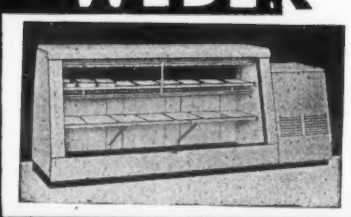
Percival's complete line will increase your sales of electrical refrigeration equipment and offer added earnings.
Desirable territories still available. Write for complete information.
1886-1937
51 years of service to meat markets.



C. L. PERCIVAL CO.
DES MOINES, IOWA

THE BUYER'S GUIDE

SIX NEW CASES BY WEBER — New Steps to PROFIT



The most complete line of Refrigeration Equipment — New Streamlined Beauty — Unchallenged quality. Exclusive Territories Now Available — Complete Financing Plan.
Established 1902 —
Cable Address: "WEBERCO"
Weber Showcase & Fixture Company, Inc.
5700 Avalon Boulevard Los Angeles, California

Send for BIG FREE CATALOG in color

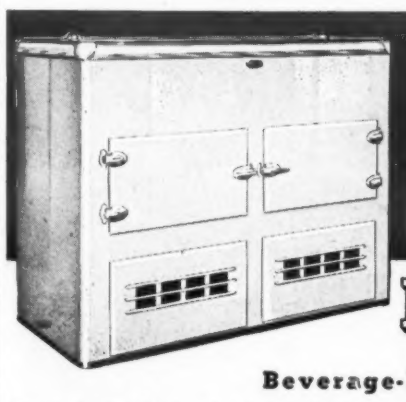
BIG PROFITS for DEALERS

Sell the New WINTER AIR SELF CONTAINED AIR CONDITIONED DISPLAY CASES AND REFRIGERATORS
EQUIPPED WITH WESTINGHOUSE HERMETICALLY SEALED REFRIGERATION
EASY TO SELL—EASY TO INSTALL.

5 YEAR WARRANTY
WINTER AIR PRODUCTS CORP. MERCHANDISE MART CHICAGO, ILLINOIS.

TYLER'S WELDED STEEL Cases

● 1937 line offers wide variety and sensational values. 6 big new features and iron-clad guarantee. Only Tyler gives one-piece "welded steel" construction, 100% insulation. Wonderful sales opportunity. Most talked of and fastest selling line on market. WRITE today.
TYLER Sales-Fixture COMPANY
Dept. E, NILES, MICHIGAN
SIX BIG NEW FEATURES



DISTRIBUTORS! DEALERS!
Here's a BIG, NEW MARKET For Refrigeration SALES
PELCO Electric Beverage-Food COOLER
for Bakeries, Resorts, Taverns, Road Houses, Refreshment Stands, Restaurants, Bowling Alleys, Billiard Parlors, Cigar Stores, Delicatessens, Creameries, or any place that serves bottled beverages and lunches
Look to the leader for leadership! PELCO gives the all-time peak in sales because it gives the all-time peak in beverage cooling. PELCO MAKES ITS OWN FLOATING ICE—cools bottled beverages from room temperature to desired degree in 30 minutes.
PELCO is DOUBLY USEFUL! Upper compartment is a cooler for bottled beverages—of unequalled efficiency . . . lower is a roomy refrigerator for foods or a pre-cooler for beverages. For money-saving, trade-building performance—that exceeds every promise—the swing is to PELCO. Write Dept. A-67.
Refrigerator Division
PORTABLE ELEVATOR MFG. CO.
BLOOMINGTON Est. 1899 ILLINOIS
Export Dept.: 304 E. 45TH ST., N. Y. CITY Cable Address: CARMUSE—N. Y.

CLASSIFIED ADVERTISING

RATES: Fifty words or less, one insertion, $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning and Refrigeration News, 5229 Cass Ave., Detroit, Mich.

BUSINESS OPPORTUNITIES

FOR SALE—Manufacturing rights and complete equipment for manufacturing hermetically sealed household units including tools, dies, and test equipment. Box 945, Air Conditioning and Refrigeration News.

EQUIPMENT FOR SALE

ATTENTION service men, dairies, and refrigeration dealers. I have the following equipment for sale. Coils: 59 T.F. at $15.00; 110 T.F. at $8.00; 112 T.F. at $10.00; 117 T.F. at $12.00. These are just some of the household coils. They are all new Frigidaire. Also a lot of commercial coils. State type you wish and we will try to fill for you and give price if desired. Also have some Model Y compressors completely reoperated like new—$60.00. Have some Models C.N. and also smaller compressors. Prices on request. Frigidaire, Wagner, and Century ⅛ H.P. 110-220 60 cycle motors fully rebuilt, while they last $5.00 each. All orders must be accompanied with small deposit. Balance Sight Draft. Goods will be shipped freight charges collect. No charge for crating. REFRIGERATION SURPLUS JOBBERS, 5622 Woodland Ave., Cleveland, Ohio.

MAJESTIC AND GRIGSBY-GRUNOW refrigerator and radio parts service. We are the only original, the only genuine, the only direct factory in the world. All rebuilt units guaranteed 18 months. Beware of inferior replacements and parts. G & G GENUINE MAJESTIC REFRIGERATOR & RADIO PARTS SERVICE, 5801 Dickens Ave., Chicago.

HERMETIC UNITS REPAIRED and exchanged—Majestic $18.50—Westinghouse $25.00—Gibson $18.50—General Electric $25.00—all model household units. Prices F.O.B. our factory—six months guarantee. Complete machine shop service on all makes domestic and commercial. ALLIED REFRIGERATION PRODUCTS CO., 1947 Flushing Ave., Brooklyn, N. Y.

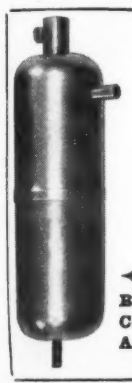
REPAIR SERVICE

COLD CONTROLS repaired. Ranco Pencil types $1.75. General Electric, Cutler Hammer, Tag, Penn, and Ranco box types $2.00. Bishop Babcock, Majestic, Frigidaire, and Penn magnetic switches $2.50. All work guaranteed 6 months. UNITED GAUGE AND INSTRUMENT CO., 436 W. 57th St., New York City.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

THE BUYER'S GUIDE



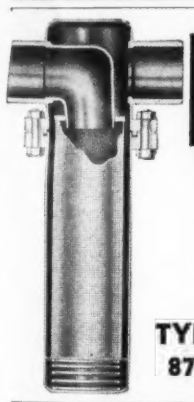
RECEIVER TANKS—COMPRESSOR BASES—MOTOR MOUNTING BASES—AND OTHER STAMPINGS AND ASSEMBLIES FOR REFRIGERATION AND AIR CONDITIONING.

Our Receiver Tanks are made with drawn shells. Assembly by Hydrogen Brazing produces tanks chemically clean and free from dirt. Can furnish tanks painted if desired.

← Brazed in Controlled Atmosphere

Acklin

THE ACKLIN STAMPING CO.
TOLEDO, OHIO
Chicago, Ill.
Detroit, 2-165 Gen. Motors Bldg.



HENRY Strainer
HORIZONTAL TYPE FOR COPPER PIPE WITH SOLDER FITTINGS

Screen can be taken out for cleaning without removing strainer from line. Large screen area and minimum pressure drop. Light weight. 100 mesh welded Monel screen for liquid lines; 50 mesh for suction line. Fitting sizes ⅝" to 1⅜". Write for CATALOG 62.

TYPE 877

HENRY VALVE CO. 1001-19 N. SPAULDING AVE. CHICAGO, ILLINOIS
STOCKED BY LEADING JOBBERS

PRECISION PISTONS

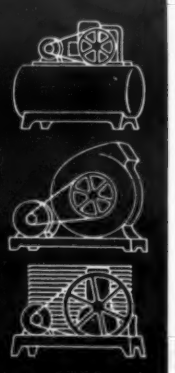
YOU CAN Eliminate your piston worries if you entrust their manufacture to us. Send us blue prints. Let us quote on your requirements.

SPENCER-SMITH MACHINE COMPANY
HOWELL, MICH.

Dayton V-Belts are the logical choice for all types of appliances, because they provide silent, dependable transmission—because their powerful grip prevents slippage—because they run smoothly without weaving, twisting or vibrating. A nearby distributor carries a complete stock.

★

THE DAYTON RUBBER MANUFACTURING CO.
DAYTON, OHIO
WORLD'S LARGEST MANUFACTURER OF V-BELTS



★ Dayton ★
V-BELTS

Personal Relationships Eliminate Sources of Unrest, NRDGA Told

(*Concluded from Page 14, Column 5*)

See that they are not being abrogated by the misunderstanding of a supervisor.

25. The instinct of imitation is one of the most powerful of human instincts. The executive is constantly unconsciously influencing his workers by his appearance, his voice, his manner, his entire attitude. If you disregard store rules, you can hardly expect better conduct from your employes.

Closer Contacts Minimize Unrest, Woodyard Says

Closer personal relationships between employer and employes will go far toward eliminating the sources of labor unrest in the smaller volume store, declared D. B. Woodyard, manager of J. C. Penney Co.'s Omaha store.

"The problem of employe relations in the store employing from 100 to 400 people need not be deadly serious unless management allows it to become so," Mr. Woodyard said. "In such a store, management still has an opportunity to maintain its relationship with employes on a more or less personal basis.

"Management should be acquainted with the individual, and the individual should be on speaking terms with management. Where such a condition exists, it is not difficult to iron out irritations which, if allowed to develop uncorrected, may cause great trouble later," he added.

Liberality regarding hours and wages he recommended as a move toward employe good feeling, advising cooperation between stores in one city in setting up common standards. Vacation policies of a store may also be used effectively to draw the employe closer to the management, he stated.

"Pleasant employe relations can be maintained in a small store if we employ the right people, train them right, treat them right, and reward them properly and fairly," Mr. Woodyard said.

"All employes should know that promotions and increased income are awarded on the basis of performance, and on that basis only. Periodic meetings of department heads and supervisors should be held with the manager in order that all of them may understand the store's policies and in turn be able to radiate an understanding of those policies to each fellow worker."

Employes should be given a hearing before being dismissed, in Mr. Woodyard's opinion, and a conference between department head and manager should precede any action. While an employe may not fit in one department, discussion may reveal another spot in which he could do a creditable job, he stated.

"The finest progress in a small volume store is made by taking your employes into your confidence. Give them a voice as to what can be done to promote their departments and general good will for the store. From a source least anticipated may come a brilliant suggestion."

An 'Indirect' System Of Air Cooling for An Office Suite

(*Concluded from Page 13, Column 3*)

tion of the thermostat will have to be reversed for each season.

For the winter cycle, the valve will be required to open as the temperature drops, to circulate more hot water through the conditioner for the purpose of heating; while in the summer time the valve will be required to close as the temperature is reduced by the cooling water.

A similarly equipped conditioner of the suspended type will be selected for the general office. This unit will be used to circulate conditioned air throughout the entire general office space, and thus will have to be provided with special discharge grilles to give the proper diffusion of air without causing uncomfortable drafts.

Fortunately, the end opposite to the conditioner location is not occupied. The space there is used for files so that air distribution to that area is not vital. It is not likely that this unit will be used for the heating cycle except to temper the discharge air when the unit is being used for humidification.

For heating the general office water is circulated from the conditioning system through the radiators now installed along the exposed wall. The water flow will be controlled in the same manner as used for the small office units during the winter.

Some water will be circulated to the suspended conditioner, but only enough to temper the air at times when the conditioner is being used for humidification. This operation will be controlled by a humidistat which will operate the conditioner at a slow speed, giving some circulation while permitting the humidifier to function as required.

The equipment in the basement shall consist of a refrigeration machine connected to a water cooler.

For the winter heating cycle a steam heater will be installed to heat the circulated water. The water will be passed through both the heater and the cooler at all times, thus leaving the system ready for any required function. A pump will be required to keep the water circulating through the system at the proper rate.

This pump will be the standard centrifugal pump which shall have the necessary water output capacity against a head equivalent to the friction pressure drop through the entire piping and coil system. Naturally this will not have to include the static head pressure on the system at the pump location.

A pressure expansion tank will have to be installed to regulate the static pressure on the system and keep it within a certain range regardless of expansion and contraction due to temperature changes.

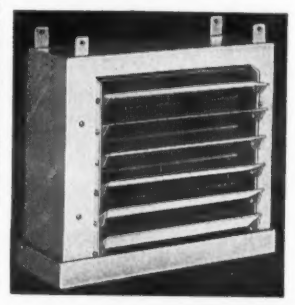
Operation of the circulation pump may be manual but the other equipment should be automatic. The refrigeration compressor should be regulated by a temperature control located in the water outlet from the cooler. It should also be equipped with a safety back-pressure control.

The steam supply to the water heater may be controlled in a similar manner, using a temperature control located at the discharge of the heater.

Both these controls may have the additional feature of being compensated for outdoor temperature.

By such compensation the maximum water temperature will be reduced when the outside temperature begins to rise at the end of the winter season. Likewise, when the outside temperature and humidity begin to drop during the summer, the water temperature limit may be increased slightly.

THE BUYER'S GUIDE



UNIT BLOWERS
Pipe Coils
Air-Conditioning Coils
FIN COILS
5/8"—3/4"—1"
Steel or Copper
REMPE COMPANY
340 N. Sacramento Blvd., Chicago, Illinois

REMPE

MILLS
COMPRESSORS
for Commercial Use
Mills Novelty Company • 4100 Fullerton Avenue • Chicago, Illinois

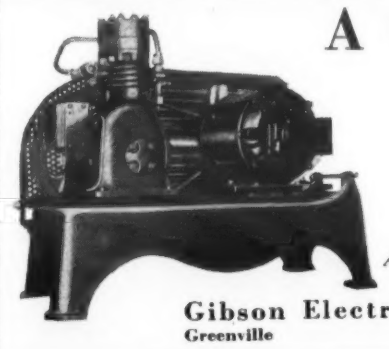
REPLACEMENT COMPRESSORS
for All Standard ICE CREAM CABINETS

Bare Compressors and complete units (with or without motor and controls) especially adapted to ice cream cabinet installation and for replacement on all standard makes of flooded type or dry expansion systems.

Write for new catalog.

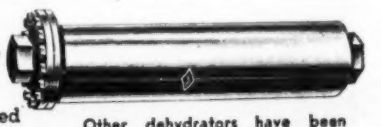
M&E EST. 1866

MERCHANT & EVANS COMPANY
Philadelphia, Pa., U.S.A., Plant at Lancaster, Pa.



A Complete Line
of
COMMERCIAL UNITS
¼ H.P. to 15 H.P.
Air Cooled *Water Cooled*
Gibson Electric Refrigerator Corporation
Greenville Michigan

A NEW DEHYDRATOR FOR THOSE BIGGER JOBS



THE new Imperial steel dehydrator is designed for refrigeration and air conditioning work. It has a steel shell with bolted flanged end. The shell is 4 inches in diameter and is furnished in 18, 24 and 36 inch lengths. Ends have 1½ inch female iron pipe thread and screens and steel wool are included.

Other dehydrators have been added to the Imperial line, including a refillable cartridge type, another with dispersion tube and a very small, inexpensive size for permanent installation on small systems. Write for the new Imperial refrigeration catalog.

IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago

IMPERIAL Dehydrators ORDER FROM YOUR JOBBER

VALVES • FITTINGS • TOOLS • CHARGING LINES • STRAINERS • FLOATS